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Expediting Southern Mail Service.

[From our own Correspondent.]

WASHINGTON, February 23.

A lively debate, which developed some highly interesting facts touching the transportation of Southern mails, occurred in the House of Representatives last Saturday and on Tuesday and Wednesday of this week. The debate came up during the consideration of the postoffice appropriation bill, and centered upon the customary paragraph in that bill providing for special mail facilities on trunk lines along the South Atlantic seaboard.

The item as originally reported in the bill for the next fiscal year stood thus:

For necessary and special facilities on trunk lines from Springfield, Mass., via New York and Washington to Atlanta and New Orleans, \$196,614.22.

Immediately after it was read a dozen Representatives pounced upon it and attacked it as it stood without gloves. Among them were Messrs. Kyle, of Mississippi; Loud, of California; Wise, of Virginia; Wilson, of Missouri; Dickerson, of Kentucky; Outhwaite, of Ohio, and McKaig, of Maryland. A still larger crowd of Representatives hurried to the defense of the proposition, although some of them favored amending it in various ways. Among the advocates of the proposition were Messrs. Hemphill, of South Carolina; Henderson, of North Carolina (who reported the bill); Wheeler, of Alabama; Hooker, of Mississippi, and Mallory, of Florida.

Mr. Kyle opposed the whole proposition vigorously on the ground that it was improper and partial in its benefits. In the course of his remarks he quoted the report of the minority of the postoffice committee, who dissented from the proposition:

First—Because we think the principle that recognizes the right of the government through any of its departments or agents to discriminate in favor of one individual or enterprise, and not all alike, is indefensible upon any line of fairness or justice.

Second—The Postmaster-General, whose duty it is to give attention to postal matters, after a careful consideration of the subject, recommends the discontinuance of appropriations for this purpose. And he says that the "special-facility allowance has for some years past been the source of much annoyance to the department and has hampered the best interests of the mail service."

He says further that—

"When special-facility payments were first started it was well understood that they were but temporary, so as to bridge over a period until the natural growth of the mails would yield sufficient compensation to do away with the occasion for additional allowances, * * * since which time the aggregate yearly compensation to the railroads drawing special allowances for ordinary mail and car transportation, independent of special service, has more than doubled, so that ordinary compensation * * * will be greatly in excess of ordinary and special compensation added together ten years ago."

Mr. Kyle raised a point of order against the proposition, and a running argument followed on both sides. Mr. Dickerson moved to amend the item by striking out the designation of the points to and from which the trunk lines run, so as to leave to the discretion of the Postmaster-General the selection of the particular roads to perform the service, and repeating the language of the current appropriation.

During the discussion the fact became apparent that some of the Representatives favored particular roads running through

their own districts. Mr. Hemphill stated the situation very clearly when he said:

"The facts with reference to this appropriation are very simple. In order to compensate some railroads in the South for putting on increased mail facilities and giving us rapid communication with Cuba and other places South we have appropriated a considerable sum of money from year to year in this appropriation bill. The Western railroads of which my friend from Missouri [Mr. Dockery] speaks were largely built at the public expense, as we all know, and they are fighting now through this House for public lands at every session. Therefore, it does not come with a very good grace from them or from any man speaking for them—I do not mean speaking for them in any improper sense—to say that the Southern railroads ought not to get this money simply because the Western roads do not get money, roads which have already gotten that from the government which brings them money. It may be possible, and it probably is possible, that some of the railroads running through Florida have been aided by public lands, and therefore are not entitled to receive anything from the treasury.

"Then, when the Coast Line people found out that another railroad was going to get this money, they said in substance: 'We did not want it originally, but as somebody else is going to take it, we propose to come in now and take it from them.'"

Mr. Wheeler defended the object of the proposed appropriation by saying:

"It was stated by representatives of that road and other roads that the Richmond & Danville road was willing to carry out the requirements, but they did not appear to particularly desire it, and the statements made to the committee certainly indicated that the other roads were perfectly willing that the Richmond & Danville should have it. The only purposes was to give this vast population of 10,000,000 or more people in this great area of country running from the northeast to the southwest rapid transportation for their mails. Gentlemen talk about appropriations for mail service. Why, in the paragraph just above that I see the sum of \$21,000,000 appropriated for railway mail service, most of which is to be expended on lines where the amount of mail transportation is such that they get from three to ten times as much as is given to lines which come under this paragraph, for which we appropriate the paltry sum of \$196,000.

"Now, Mr. Chairman, they talk of a monopoly. This is to prevent monopoly. They tell you that the Postmaster-General felt constrained to confine the contract to this road, which on account of its location really is a monopoly, because speeches in the House of Representatives showed that the House, in making the appropriation, meant it for that line. And therefore, ignoring the great Southwest, he gives these special facilities to a railroad going through a sparsely-settled country, with the ocean upon one side and no large cities along its line, terminating at the small but thriving city of Tampa, ignoring such great cities as Atlanta, Nashville, Birmingham, Montgomery and New Orleans, the latter having at least twenty-five to thirty times the population of Tampa."

Hon. N. C. Blanchard, who occupied the chair in committee of the whole, overruled Mr. Kyle's point of order, whereupon Mr. Dickerson appealed from the decision, which upon vote was sustained. Then Mr. Kyle moved to amend by striking out the entire paragraph. A long debate followed likewise on this, during which Mr. Hooker said:

"I beg to call the attention of the committee to the regions of country which are intended to be benefited by these appropriations. They are not confined to any particular localities, but stretch from North to South, embracing as large a scope of country as it would be possible to reach by so small an appropriation.

"The Richmond & Danville Railroad, by an arrangement with the Pennsylvania Railroad, operates daily a fast mail train leaving New York 4.30 P. M., after the close of the commercial business day, leaving Philadelphia 6.55 P. M., Baltimore 9.20 P. M., and Washington 10.43 P. M.

"This train is a solid train, operated from New York through to New Orleans, through the Piedmont section of Virginia via Charlottesville and Lynchburg to Danville, Va., where connection is made with diverging lines into Virginia and North Carolina, thence on through Greensboro, Salisbury and Charlotte, N. C., where the line divides, one branch going off in a southern direction through Rock Hill, Chester and Columbia, where connection is made for Charleston, S. C., and Savannah, Ga., and to Augusta, Ga., where connection is made with various lines for Macon and principal points in central Georgia.

"The main line from Charlotte, southward, is through Spartanburg and Greenville, S. C., thence on to Atlanta, where close connection is made with seven diverging lines of railway; thence on through Opelika and Montgomery, Ala., thence to Mobile, Ala., and New Orleans, La., where connection is made with Southern Pacific and Texas Pacific Railroads for all points in southern and middle Texas.

"From Atlanta, west, the Richmond & Danville Railroad extends 459 miles, through Anniston, Ala., Birmingham, Ala., Winona, Columbus and Greenville, Miss., reaching the Mississippi river, where connection is made with the Gould system for the West and Northwest. At Birmingham connection is made with the Queen & Crescent line for Meridian, Vicksburg, Shreveport and points in middle and northern Texas reached through Shreveport; also at Birmingham connection is made with the Kansas City, Memphis & Birmingham Railroad for Holly Springs and Memphis, thence into Texas, Arkansas and southern Missouri by way of the Memphis & Little Rock, Cotton Belt, Iron Mountain and Kansas City, Fort Scott & Memphis Railroads."

Mr. Hemphill took the floor again and added:

"An impression seems to have grown up in this House that this appropriation is intended for the railways, and for their benefit alone. But it ought to be well understood that these roads are to get the benefit of the appropriation only when they comply with the requirements of this bill, which are for the convenience of the people and for the good of the public service. It is

not intended for the Southern country only, but gives to the cities of New York, Philadelphia, Baltimore and Washington an opportunity to communicate rapidly with the people in the Southern country with whom they have commercial relations.

"Now it is proposed, after sixteen years of effort in this line, after this mail service has been established on a satisfactory basis, to take a backward step and reduce the mail facilities to the people of the United States. The reasons, so far as any reasons have been assigned against the appropriation, have been stated very fully by the gentleman from Mississippi (Mr. Kyle), and if any member of this House will read the speech he made here on Saturday last, knowing the gentleman's ability and capacity to argue any question, I am satisfied he will vote against him on this measure simply because a man of his abilities cannot produce a better argument to sustain the position he has taken. Indeed, the chief thing he says in support of his contention is to quote from the reports of the Postmaster-General, and the chief argument used by the Postmaster-General is that this thing is a source of annoyance.

"Well, sir, I would like to inquire what the Postmaster-General is paid \$8000 a year for, except to be annoyed by the public business of the country?"

Finally, Mr. Dickerson's amendment was rejected, and the proposition as originally contained in the bill was agreed to, with a proviso offered by Mr. Dingley, of Maine, which makes this important appropriation for Southern interests now read:

For necessary and special facilities on trunk lines from Springfield, Mass., via New York and Washington to Atlanta and New Orleans, \$196,614.22.

Provided, That no part of the appropriation made by this paragraph shall be expended unless the Postmaster-General shall deem such expenditure necessary in order to promote the interests of the postal service.

No doubt the item in this shape will be allowed to stand without change by the Senate and will become law.

Marble for the Congressional Library.

Tennessee marble dealers feel much disappointed at the failure of their efforts so far to have an investigation made relative to the use of foreign and exclusion of domestic marble in the Congressional Library building at Washington. Senator Voorhees has reported to the Senate a resolution regarding foreign material to be used in the construction of the library building. Accompanying the report is a long letter from Bernard Green, superintendent of construction, stating that there were only two contracts made for foreign marble, which was to be used in the rotunda and grand stair hall of the building. This was necessary to attain the ends desired in beautifying the structure. The committee state that the conduct of General Casey in the matter meets with their absolute and unqualified approval.

A WOODENWARE manufacturer of Delaware contemplates establishing a factory in Snow Hill, Md., and during the past week has been investigating the town's advantages. This section of Maryland is well stocked with gum timber, which is the best wood that can be found for making butter-trays, plaques, etc.

Direct Trade and Agriculture.

[An address delivered by Col. I. W. Avery, of Atlanta, Ga., before the State Agricultural Society of Georgia.]

While Southern direct trade with foreign countries will benefit beyond words the South and West, it will vivify the commerce of the whole continent, enlarge the international trade relations of the United States and have an important bearing upon the mercantile and industrial autonomy of the world.

Foreign countries gain in time and save money by straight communication with us, as we do with them. The South saves the cost of freight from Savannah or Brunswick to New York and of transfer and middlemen there, these additional expenses making a good profit themselves.

The West gets a competitive Southern route with the Northern route to Europe, the competition reducing freights and preventing excessive charges by monopoly lines, while certain Western marts, being nearer to our South Atlantic Georgia seaports than to North Atlantic seaports, save time and money by taking the shorter route. Memphis is nearer to Savannah or Brunswick than to New York 562 miles, St. Louis 162 miles, Kansas City 153 miles, San Francisco 101 miles, Portland and Omaha eighty-seven miles and Nashville 469 miles.

Already, on account of this shorter hauling by expensive railway carriage, a great deal of stuff is sent from Colorado, Nebraska and other Western States to Savannah, and then by the great Central Railroad Ocean Steamship Co. to New York instead of direct by train over Northern railroads. Establish regular direct lines of ocean steamships between Savannah or Brunswick and foreign countries, and the whole West will be glad to use the shorter Southern rail route for its vast exports of flour, grain and meat.

One of the great revolutions in business communication that will be wrought by regular Southern direct trade will be that a trans-American-Continental and trans-Atlantic and trans-Pacific mail route will be opened up from England to Savannah or Brunswick and San Diego to Australia, New Zealand and Japan and China, 800 miles nearer by railroad, 2500 miles nearer by ocean than any other existing route. The result of making through Georgia and the South the nearest mail route between the continents of Europe and Asia would be important indeed, and give increased commercial dignity to our Southern section.

If the Nicaragua Canal is ever completed, which will be surely done some day, and that not far off, linking together the two great oceans by a short navigable bond of water, our Southern direct trade line will be swelled beyond measure by this colossal traffic.

Let me briefly tell you what progress has been made by this direct trade movement, started but seven months ago by Colonel Stovall and myself, simply with the public-spirited idea of aiding to lighten, if possible, Southern depression, in which you farmers, the very foundation of our business and social fabric, shared largely.

Partial lines of steamers are running successfully from Savannah to Mediterranean ports and to South America, Brunswick to Liverpool and Bremen, Pensacola to Havana, and a line contracted from Newport News to England. Other lines are projected from Wilmington, Charleston, Port Royal and New Orleans. But the largest line, a complete one, is the Sando Line from Liverpool to Savannah or Brunswick; steamers of large tonnage and high speed contracted for, with a strong bank of \$1,000,000 capital, and a powerful importing house of \$500,000 capital to be established to sustain the line, and a plan to bring over the best German and English emigrants. And the East Tennessee and Central Railroad systems, with their 5000

odd miles of track, have agreed to make an ocean terminal fund of \$1.00 a ton on all through export freights to build up the import business. The other railroads clean to the West have promised low rates and large cargoes, while the big meat, flour and grain firms of the West have pledged heavy shipments.

But I especially desire to show how much this long-cherished and often-tried direct-trade project, now successfully consummating, will vastly benefit the greatest of all of our interests, agriculture.

Let me give you a stupendous fact in this connection that will amaze you. The entire exports of the United States for the twelve months ending December 31, 1892, were \$923,237,032.

Mr. President and gentlemen, it is the astounding truth that \$712,461,792, seven-ninths, or nearly 80 per cent., of the whole of this enormous contribution to foreign consumption, came from your agriculture, and was contributed by your sturdy, economical and toiling farmers, and the largest single item of it, cotton, was furnished by the South.

Could the value, the power and the commercial majesty of agriculture be more strikingly demonstrated? Our mines, forests, fisheries, manufactures and all of our other miscellaneous productions combined together made but two-ninths of our foreign exports, while you hawny tillers of the soil gave over three times as much as all the rest.

Consider now how vastly you are interested, you producers of this tremendous majority of the substance of our foreign trade, which makes the power of this land—how much, I say, you are interested in the most economical and saving way of doing this tremendous business, so that you can get out of it every possible dollar, and save every possible cent of expense, and pocket every dime of profit.

It is estimated that it costs an extra dollar on every bale of cotton that goes by way of New York to Europe instead of direct. That dollar comes out of the sale of the cotton and does not go into your wallet. On 9,000,000 bales, if they all went abroad, it would make the snug sum of \$9,000,000 out of Southern pockets. You send 6,000,000 bales, worth \$217,000,000, out of which you lose \$6,000,000.

That is worth saving, and that is but one item. Direct trade will help to remedy this invasion of legitimate profit belonging to the hard-working farmers. You can estimate that in unnecessary freight and middlemen's charges and transfer expenses and interest and multiplied handlings there is a round big hole dug into the agricultural pecuniary results of this great land of ours. And it is the beneficent purpose of direct trade to save a few of these wasted dollars.

I could follow out this line of fact and give you details, but it is unnecessary. The huge single fact I have given you will show the situation clearly, and awaken you to the extent of your interest in this direct trade movement as a means of relief from great burdens.

But there is a great problem of development connected with this direct trade that it is important for you farmers to consider. You have vast areas of idle lands that you need settled and tilled. Georgia has the largest variety of soil, climate and product of any State in the Union. She is known as the "variety" State. A main feature of the great Sando steamer line is to bring the best German and English immigrants to us to till our idle acres. Our fruit and stock cultures are growing to massive proportions and feeding the nation. Georgia can supply Europe through direct trade. With more white skilled, moral, garden and orchard labor to work our magnificent lands, and direct swift ships to carry, we can feed the whole abroad with our melons, peaches, grapes and vegetables, swell our

foreign commerce and enrich ourselves.

This is not visionary, but practical.

Let me urge another benefit. We exported \$217,000,000 of raw cotton in 1892, and only \$10,000,000 of manufactured cotton. That will not do. England makes up our cotton and supplies the world with goods. She sells to South America, our natural trade territory, \$14.00 of cotton goods to our \$1.00. We must bring the looms and spindles to our cotton fields and make two profits where we now make one.

I have simply given you the chief and supreme generalities of this stupendous matter. Its details would make a volume. No mind can conceive the beneficial possibilities of Southern direct trade with our complete and unequalled natural Southern resources, and no class will be more largely benefited than the farmers. I commend the subject to your best consideration, sanction and help.

The Sugar Industry of Florida.

[D. C. Sutton in *Florida Agriculturist*.]

In speaking of the sugar industry of Florida we may almost entirely confine ourselves to that which has been done, and all that will be done, on muck or reclaimed lands, for, in looking over the bounty applications, we find that but few farmers of this State produce sufficient sugar to go to the trouble of even making an application for the bounty of one and three-quarters cents which all outside of the St. Cloud plantation would get, for most or all of the sugar producers of Florida use every primitive method, namely, a horse mill and open evaporators, where the syrup is boiled down very low to what is known in Louisiana as "crute," and left to grain of its own accord; and yet there is no particular reason why many hundreds of Florida's best pine and hammock lands should not yield an immense revenue from sugar, for it is a staple product, and can be sold at all times of the year, and generally at a very profitable figure, and there is no risk to be run in its transportation, and it may be easily kept for a year.

It has been observed that cane grown on pine lands or lands containing much silicious matter is impervious to the cold, owing to the fact that the stalk contains more fibre and has a better constitution. Muck contains little silica, and the stalk is consequently very soft and tender, but where there is a good water protection muck-land cane will stand through the most severe weather we have yet seen in Florida.

As the St. Cloud plantation is the only place where cane is grown on muck, we may confine our remarks entirely to what it has done and what it will probably do.

This place has produced some of the best yields of sugar ever made in this country, and yet there are lands far superior to this which surround the Okeechobee and better for two obvious reasons. It is very reasonable to suppose that the muck land of this region is older, for it was necessary for that land to form first in order that the water level might be raised to form the lands higher up. It was the growth of all kinds of aquatic plants in shallow water which yearly decayed that formed our immense marshes; then if this land is older, it is more decayed; the organic matter being better decayed, it is a better soil, and consequently more suited to a luxuriant growth of cane and able to sustain such a growth after it has once fairly started.

The muck of this region is underlaid with limestone and phosphates, the alkali of which has been of incalculable benefit in the decay and in neutralization of organic acids.

Second, the immense body of water renders the country almost as free from frost as is Cuba, so one might manufacture sugar as is done in the tropics, leaving the cane to grow to perfect maturity.

Much of this land has already been

drained, and still the operation goes on; it is necessary to reduce the water level very little, say three or four feet, to render this country secure from inundations, for there are sufficient outlets to carry off all the water before it can reach a higher stage. One can imagine how long and how much water would be necessary to cause much rise over 1000 square miles, which is Okeechobee's extent.

There is water communication from Kissimmee City to the Gulf, and a line of steamers could easily carry off all the produce of the country, and should an industry of any size be carried on in this region a line of ocean steamers could carry the products to all ports of the world. These lands are practically unlimited; at present there are 200,000 acres available for cultivation, and from the roof of a steamer one can see nothing for miles and miles but this immense body of land, and not even a tree in sight. Owing to the dry weather in winter and spring usually prevalent in south Florida, irrigation must be resorted to, which can here be practiced to perfection.

Besides its natural abilities, this country is beautiful beyond description; it is nature's hothouse, where luxuriate the most magnificent palms, ferns and tropical flowers and plants of all descriptions.

It is only a matter of time when the tropical cane will have taken the place of the rank "saw grass" (the natural growth), and the land which once lay buried in a watery grave will yield to the industrious strokes and ingenuity of man the richest harvest he has ever yet gathered.

The results from cane in this State have not been very encouraging this year, for the season was extremely severe, there being not one drop of rain for about four months; this was, of course, a very exceptional year, and one may confidently expect its return in the far future, yet those interested in sugar around here still push this industry on with relentless vigor; the area has been extended ever since the first stalk of cane was planted on the reclaimed land, till now St. Cloud comprehends about 2000 acres, and with its magnificent factory can easily handle this acreage.

The sugar possibilities of Florida are so great and sugar so important an article to our country that the United States Department of Agriculture has established an experimental station on the shore of East Lake, opposite St. Cloud, to thoroughly investigate the subject. There have been introduced from all parts of the world eighty varieties of cane, and their relative merit and adaptability will be thoroughly tested, and every method of cultivation will be applied and the subject most thoroughly treated in every way and the results handed to the people. In order to fully carry out this work a most splendid experimental factory has been built, so that no pains will be spared to make the investigations complete.

Thus far the State of Florida has neglected this matter, and it is to be hoped that she will soon awaken to her duty and do as much for herself as our government is doing and will do.

Sugar from Cottonseed.

The cotton plant, which has for so many centuries furnished a large part of the population of the globe with clothing, seems to be almost without limit in its usefulness, remarks a scientific authority.

From the seed a valuable oil is expressed, while the husks form an article of food for cattle, in the shape of cakes. From the lint which clings to the seed after it has passed through the "gin," felt is made, while the oil extracted from the seed is applied to quite a large number of purposes. But according to the British consul, Mr. Portal, of Zanzibar, cottonseed is also capable of yielding sugar.

A process has been discovered for ex-

tracting sugar from cottonseed meal, and though the details of this process have not been disclosed, it is said that the product obtained is of very superior grade, being fifteen times sweeter than cane sugar and twenty times more so than sugar made from beets. It cannot, however, enter into competition as an article of commerce with ordinary sugar, owing to its peculiar tendency to ferment and sour.

This peculiarity may be due to some chemical conditions of its extraction, and a German chemist is at present engaged on a series of experiments with a view of discovering some means of neutralizing this tendency.—*Louisiana Planter*.

Gold-Mining in the South.

By C. B. Warrant.

Many years before the discovery of the California gold fields gold-mining in the western part of Georgia and North and South Carolina had been an established industry. With slave labor gold-mining in the South paid well, but since the war a number of spasmodic efforts which have been made to operate the mines as a rule resulted in failures.

In the early days of mining a shaft was sunk at some convenient spot on a vein, the ore was roasted nearby, and was then carted, often for miles, to a water-power. Five dollars per ton of recoverable gold was the minimum limit at which these mines paid. The pyrites or gold-bearing sulphurets were considered worthless and were allowed to go to waste. As a rule the quantity of ore taken out of a mine was insignificant, and a vast amount of gold still exists which can today be profitably recovered. Gold-mining property can be bought very cheap—almost at a nominal figure.

Some time ago I visited one of the most interesting and valuable of the gold-bearing quartz districts, lying at the foot of the Blue Ridge mountains on the banks of Broad river, near Smith's Ford, in York county, South Carolina.

Within a radius of less than two miles I have seen nineteen veins of quartz which, without exception, contain more or less gold, generally in paying quantities. The veins all run parallel from the northeast to the southwest, varying from two to thirty feet in thickness. I have followed one of these veins by the drift rock and croppings for five miles. The drift rock indicated by pit marks that it had contained at one time gold pyrites. These veins are almost perpendicular; the bottom of none has ever been reached, and it is currently reported that the deeper the shaft was sunk the better the quality of the ore became.

Probably the best of these mines, as well as the smallest and most compact, is the 40-acre tract known as the old Smith mine. It has five distinct veins running through the whole length of the property, 440 yards, and far beyond on adjoining lands. The veins will vary from three to five feet in thickness, though only two of them have ever been mined. The Jeffrey vein had a shaft sunk 100 feet and had a drainage tunnel. The Smith vein had two shafts of 150 feet and a tunnel connecting both shafts, also a drainage tunnel. All of these have caved in to a great extent. When the Smith vein was in good order it exposed the vein to a depth of 150 feet and a length of 125 feet, with an average width of three feet. To form some idea of the quantity of gold locked in one of these veins, I calculated that a space of 150 by 125 by three feet contains 54,750 cubic feet, and as it takes about thirteen cubic feet of quartz ore to weigh one ton, the space exposed contained 4562 tons. The mine, with slave labor, produced \$7.00 of free gold per ton; the pyrites or gold-bearing sulphurets thrown away could not be less than two-thirds of the free gold, or \$4.66 per ton, or a total contents of \$11.66

of gold per ton. Hence a total of over \$50,000 of gold is locked up in this small space. The length exposed was less than one-tenth of the whole vein, and the depth can probably be tripled or even quadrupled. It is quite within the range of possibility, even of probability, that this one vein alone has \$2,000,000 of gold treasured away, and this 40-acre tract has five such veins, apparently all alike.

About one and one-half miles from the Smith mine is the Magnolia mine, which is on a much larger tract, containing ninety-six acres. This mine has ten distinct veins, varying in thickness from two to thirty feet. The largest, the Magnolia vein, is thirty feet wide and exposed to a height of 150 feet; another vein is ten feet wide. One hundred samples taken promiscuously from as many different places on this vein assayed \$4.37 of gold per ton. Some of the smaller veins assayed as high as \$152 of gold per ton.

Close to these mines are still two more smaller mines, the Rabbit and the Tucker. Each has two veins of two feet thickness. A splendid water-power could be easily obtained about half-way between the Smith mine and the Magnolia mine.

If we compare gold-mining of forty years ago and gold-mining of today, how many changes do we find? The drilling was formerly done by slaves with sledge and drill, while today there are steam, compressed air or electrical devices by the hundred. The windlass worked by man or beast has also been replaced by steam and electricity, which can be generated at some water-power miles away and transmitted over a wire to the mine. The cart and tramways have also given way to quicker and more economical devices. The old-fashioned stamp mill, which only did active work during the short period of contact between pestle and mortar, has also been replaced by powerful crushing wheels doing continuous work with less power. The sledge-hammer, which prepared the ore for the stamp mill, has also had its day, and powerful crushers save an immense amount of labor. Concentration of the ore, the use of mercury and other phases of mining have also been much improved since that time. Chemistry has contributed its share of innovations by giving us the chlorination process, by which 95 per cent. of the gold becomes available and is regained.

The climate in the Southern gold-mining district is excellent, neither too cold nor too warm, and perfectly healthy. Labor is abundant and cheap; an able-bodied man can easily be hired for seventy-five cents or one dollar per day. Fuel is also cheap and abundant; cordwood can be had for \$1.50 per cord delivered. The time is near at hand when all these mines will be worked. Gold-mining South never will be in the nature of a bonanza, but with the help of modern methods and machinery it will become a safe and remunerative industry.

Savannah, Ga.

The Virginia Navigation Co.

A charter was granted on Friday last to the Virginia Navigation Co., the object of which is to build wharves and warehouses in Richmond and Norfolk and other points along the river; also to do a general steamship transportation business for passengers and freight between Richmond and Norfolk and other points. The capital stock is to be \$50,000, and may be increased by a two-third vote of the stockholders to \$500,000, to be divided into shares of \$25.00 each. The amount of real estate owned by the company shall not exceed 2000 acres, and the principal office of the company is to be in Richmond, but the right is reserved to establish offices at other points. The following are the officers for the first year: President, Edward E. Barney, of Dayton, Ohio; first vice-president, James W. Carrick, of Norfolk, and secretary and treasurer, J. D. Platt, of Dayton, Ohio.

The directors are the above and M. E. Ingalls, of Cincinnati, Ohio; B. F. Clyde, of Philadelphia, and C. P. E. Burgwyn, of Richmond.

The Striking Cotton Spinners in Lancashire.

There is every prospect that the cotton lockout in England will terminate within a very short time. Recent reports from there state that the spinners and owners have had a conference at which the former agreed to a 2½ per cent. reduction. The master spinners are undecided as yet whether they will immediately reopen their mills or wait until trade assumes a better tone. The former course is being urged by many who realize that the long stoppage of the mills has seriously injured their trade, and are desirous of commencing without delay to try and again secure it. The spinners, in the meantime, are anxiously waiting, as, while as yet there has been comparatively little suffering, they cannot much longer depend upon other districts for support, and continued idleness will be attended with great distress.

The strike, it will be remembered, took place last November on account of a proposed reduction of 5 per cent. in wages. This was not accepted by the spinners, and all in this part of the Lancashire district went out on a strike which has proven to be the most stubbornly contested fight between master spinners and operators which has taken place in England for many years. Most of the spinners have been supported by their association, and so have escaped the usual misery entailed in such long idleness, but many not members of the trade organization would have starved had it not been for charity shown by disinterested people.

The master spinners had an idea at the commencement of the strike that it would be a good thing to curtail spinning by closing some factories, thus tending to force up prices. Therefore they were not particularly anxious to make any concessions to bring the strikers back. In this they have been in error, as the trade they dropped has in large measure been secured by other spinning districts, and, what is even more harmful to Lancashire factories, their trade has been seriously cut into by India spinners, and it is extremely doubtful if it can be won back again. The result, as predicted by some people familiar with the English spinning trade, will be that some of the Lancashire mills will, before long, be forced to suspend, and the trade there is not likely to again assume such proportions as it has held in the past.

Mexican Notes.

THE excursion of manufacturers from the United States arrived in the City of Mexico on February 14, and after spending some days in examining the important manufacturing establishments, factories and points of interest in the city, went to Vera Cruz, where various establishments and manufacturing interests were seen. The party have expressed themselves as surprised at the excellent opportunity for trade which exists in Mexico, and it is expected that the trip will result in a strong effort to introduce American goods.

WORK on the railroad from the City of Mexico to Plazada bay, on the Pacific coast, has been commenced by Col. J. H. Hamson, of Kansas City. Several hundred men are busy grading and a staff of engineers is out finally locating the route. The total length of the road will be about 550 miles. The Mexican government conceded several large tracts of land to the company and also gave them other valuable grants and rights.

THE Ensign Car Manufacturing Co., of Huntington, W. Va., will build another fine saw-mill plant at its works.

Southern Pig Iron—A Reminiscence.

[From *Bradstreet's*.]

We confess to special interest in the Southern iron industry ever since undertaking, seven or eight years ago, to report the quantity of Southern pig iron shipped north of Maryland and east of Ohio within a year—that is, being sent into direct competition with Northern or, as they are called, Eastern brands.

The so-called Southern pig-iron industry was then quite a baby. Northern dealers and furnacemen used to say to the writer, in reply to questions as to the likelihood of Southern pig iron competing with Pennsylvania or New York iron for years to come, that it was doubtful whether Southern pig iron could ever expect to compete at the North and East among best grades, and as to cost of production at the South they declared that claims of being able to sell pig iron at the furnaces as low as \$11.00, or even \$12.50, and not lose money were undoubtedly exaggerations. Subsequent statements that some particularly well-situated Southern furnace could produce pig iron for \$10.00 a ton were derided, and taking this cue many of the daily papers took sides in the controversy, which, as we all know, was settled by proving that Southern furnaces could do just about what had been claimed for them.

But what was perhaps the most shocking revelation to Northern pig-iron producers was *Bradstreet's* report of shipments North and East from Southern furnaces. An exceptionally well-informed dealer in pig iron and owner of stock in two of the best known Northern furnaces was asked the day before the results of our investigation were published how much Southern pig iron he thought had come north of Pennsylvania and east of Ohio to compete with Eastern brands within a year, and his reply, after some thought, was: "Well, perhaps as much as 20,000 tons; probably less."

His surprise the next day at learning that the total was fully 100,000 tons was only equalled by the astonishment of the entire Eastern pig-iron industry. It is sufficient, in order to wind up the reminiscence, to add that the late B. G. Clarke, then at the head of the Thomas Iron Co., marked Lehigh No. 1 iron down from \$20.00 to \$18.00 per ton after reading the report, which, as iron prices went, meant that the showing of an unexpected competition from Southern pig-iron manufacturers had knocked prices of Northern irons off to per cent. within twenty-four hours.

Annual reports of Northern shipments of Southern pig iron were made by *Bradstreet's* for several years, until the extent of the competition became so well understood as not to call for special investigation by us. But the particular interest thus awakened in the Southern pig-iron industry has not cooled, and the arrival of a report to the census office by Dr. William M. Sweet, of Philadelphia, on the iron and steel industries in Southern States possesses an added value in consequence.

THE wall-paper printing plant previously noted as to be established at Harriman, Tenn., has been fully equipped and operations have commenced. The plant is owned by Messrs. P. T. Waters, D. F. Layton and Karl Stolberg, the latter of whom gives his entire attention to the business, having had a thorough experience in it in Sweden. The raw material used (the paper) is imported especially from Sweden, and they turn out about 43,000 feet of finished paper per day. The company is now engaged on a large order for a hotel at Frankfort, Germany.

WEST VIRGINIA has appropriated \$25,000 for its exhibit at the World's Fair. There was much opposition manifested, but the friends of the measure supported it strongly and carried their point.

PHOSPHATES.

The Phosphate Mines of Canada.*

By H. B. Small, Ottawa, Canada.

I.

The Ottawa river, the northeastern boundary of the Province of Ontario, and the dividing line between the latter and the Province of Quebec, has long been famous for the rafts of timber floated over its waters from the depths of the forest, and other poets besides Moore have immortalized it beauties in verse. But with the advent of the railway which now pierces the forest solitudes the days of rafting were numbered, and the boat song is now heard no more on "Ottawa's tide," or at such long intervals only that, when heard, it seems an echo of the past. The lumber trade is fast leaving Ottawa city, the old headquarters of the business, and such square timber as is now cut is gradually finding other outlets than shipment to Great Britain, and other channels of transportation than the Ottawa river.

Skirting the northern shore of this great river runs a vast chain of hills, assuming at times the altitude of mountains. Their geological character marks them as remnants of the earliest land of this continent. Following the course of the St. Lawrence from the gulf of that name to the confluence of the river with the Ottawa, the course of which latter they then pursue, the range has been styled the "Laurentians." Rolling in long undulations, with rounded rather than rugged or pointed summits, they leave a margin of eight or ten miles, dipping in a gentle slope to the water's edge, rich for agricultural use and dotted here and there with farms and settlements. Beyond this margin bold hills stretch northerly to Blue mountains, rich in iron, lead, plumbago and other minerals.

The Apatite District.—One of these minerals is apatite, or phosphate of lime, the use of which as a material for the manufacture of superphosphate as a fertilizer has become the basis of the industry, bidding fair to prove ere long one of the chief elements of Canadian trade. So rapid has been the growth of this new industry that if the lumber business were to disappear from this mineral district its void would be filled by that which has sprung up in connection with phosphate.

These deposits of apatite, or phosphate, as it is commonly here called, are confined to a district of limited extent. Taking the city of Ottawa, the capital of the Dominion of Canada, as a starting point, a glance at the map will show a section of the country to the north, lying between the Gatineau and the Lievre, two large tributaries of the Ottawa flowing southward through the Laurentian hills, the barriers of which prevent continuous navigation by presenting series of picturesque rapids and cascades. These tributaries are themselves rivers some 300 miles in length, and the section they enclose, together with a belt four or five miles wide on the east and west, is the true phosphate country. The townships in which phosphate most abundantly is Templeton, Wakefield, Bowman, Derry, Portland and Buckingham. The only place containing sufficient population to entitle it to be called a village is Buckingham, near the mouth of the Lievre. The Montreal & Ottawa division of the Canadian Pacific Railway passes along the river-front of these townships, and a small junction railway connects Buckingham village with the station of that name on the main line, some twenty-one miles east of Ottawa. Although this place has gone through one mining experience, rich plumbago mines opened near it a few years ago having put considerable sums of money in circulation in their vicinity, until they were abandoned, Buckingham has not ex-

panded like Western mining towns, but wears a sleepy, old-time aspect. The residents, apart from the families of mining foremen and managers, are more or less connected with the lumber trade, and have been so brought up in it that no other occupation seems to have charms for them. They are a quiet, harmless folk, mostly of French Canadian stock, who take life easily, do their day's work mechanically, and when night comes on are as happy listening to the old Norman tunes of 300 years ago, drawn out on a violin of antiquity, as if there were no tomorrow to provide for.

The rocks of the mountain range which traverse this district are composed of pyroxene representing the "spotted gabbro" of Norway, intermixed with quartzite, orthoclase, mica, gneiss and crystalline limestone. The phosphate itself varies much, according to locality. It is found in crystals, sometimes of large dimensions; in masses varying from compact to coarse granular, in strata of a lamellar texture, and in a friable form. The latter, known as "sugar-phosphate," is very abundant, and is often so disintegrated as to take the appearance of pure sand, soft enough to be dug out. The colors of the phosphate are very varied, comprising green of different shades, blue, red and brown of all shades, yellow, white and cream colored. Occasionally beautiful crystals are found, large and perfect at both ends and enveloped in calc-spar, or sometimes a drusy cavity, or "vugg," is struck, containing either one large crystal or a number of small independent crystals shooting from the sides or standing erect in the cavity. In one of the mines on the Lievre crystals of gigantic size have been encountered, some weighing individually as much as 1000 pounds.

In the early days of mining in the Ottawa district small operators were beset with countless difficulties which materially retarded the development of this industry, but within the last few years it has been stimulated by the investment of foreign capital and the organization of powerful companies composed of men of practical business ability, intelligence and means.

The first methods of mining employed here were of the rudest and most elementary kind. The only hoisting and pumping machinery was a tub on the end of a rope swung over the pit by a derrick worked with one horse. The pits, being as wide at the mouth as below, if not wider, were well calculated to collect all the surface water and melting snow, and often, when the water had accumulated to a considerable extent, the pit was abandoned and another was opened in close proximity, to have in its turn the same fate as the other. Now, however, steam engines and improved machinery, power drills and hoists have taken the place of the horse, the pick and the bucket; tramways are used to facilitate transport, and a thorough business management of the mines generally has placed the work on a sound and permanent basis.

Mention has been made of two rivers in this region, the Gatineau and the Lievre. The former, a favorite resort for the artist and naturalist, is rendered unnavigable by its picturesque rapids and boulder-obstructed shallows. The Lievre, on the contrary, although a series of falls and rapids extend for some distance upward from its mouth, is navigable from the village of Buckingham for some twenty miles. At the village itself there are two very fine falls. One of these was monopolized years ago for driving saw mills, the erection of which really created the village. The stretch of sluggish and deep water above this point is utilized to the utmost for floating down the mineral from the mines and for conveying supplies and machinery to them. Several small steamboats ply between Buckingham village and the High falls, some twenty miles up stream,

while the ore is towed down in flat-bottomed scows to a landing place north of the village, where the branch line of the railway before mentioned terminates. This affords convenient transshipment into cars, from which no further change is necessary till they run on the wharf in Montreal alongside the ocean vessel waiting for its freight. Most of the large mines are situated on or near the Lievre, along the banks of which bins have been built here and there to receive the ore hauled in winter and hold it until navigation opens in the spring. The greater part of the teaming is done during the winter, the snow roads being best adapted for hauling large and heavy loads on runners, the snow being generally calculated upon from early in December to the end of March. The surface of the river during that period affords an easy road for sleighs, and these conveyances lend as much animation to the scene as the steamboats of the summer.

The High falls just alluded to are formed by a mountain spur crossing the river, over which it takes a leap of eighty feet perpendicularly. No mining of any extent is as yet carried on above the falls, although there is abundant show of phosphate, but several openings have been made, precursors of more extensive operations at the proper time. Mining proper has been confined hitherto to localities bordering on the lower stretch of navigable water.

Professor Boyd Dawkins, the British geologist, when in Canada with the British Association for the Advancement of Science, visited the phosphate district, and on his return declared in a paper read by him at Manchester on "Canadian Apatite," that "it would become one of the most profitable resources of this country." Professor Hoffman, the analyst of the geological survey staff, says that, by reason of its usually high percentage of phosphate of lime, "Canadian apatite may be regarded as a most eligible material for the manufacture of superphosphate."

In addition to the yield of pure phosphate in large masses, it occasionally happens that large quantities of it are mixed with mica, pyroxene and other foreign substances. If shipped in that state the value of the whole cargo would be materially deteriorated. This extraneous matter is more or less completely removed by cobbing, an easy operation, by reason of the more friable character of the phosphate as compared with the associated minerals. This is done in a hut or cobbing-house on solid tables. On one side of the building are wagons or tram-cars into which the refuse is thrown as broken off, while the phosphate thus cleaned is thrown into another receptacle on the other side. Boys and old men are employed at this work, which no machinery has yet been found adapted to perform. In spite of every care used, large quantities of phosphate have thus been thrown aside, but these are now utilized by pulverizing and further treatment, much in the same way as the early gold workings of California and Australia yielded rich returns when their tailings are again worked over.

The drawback to the conversion of the crude material into superphosphate in the vicinity of the mines, to obviate shipping the raw material, is the absence of pyrites in the apatite district in quantity sufficient to warrant the erection of works for the manufacture of sulphuric acid, by means of which the mineral is converted into a fertilizer. The nearest deposits of pyrites in any abundance are those worked in the district southeast of Montreal, known as the Eastern Townships, some 200 miles distant from the apatite region. The cost of transport thence would be more than it now costs to ship the crude phosphate to Europe. If pyrites should at some future day be discovered near the phosphate mines (where it has been already found in small quantities), there would be little

difficulty in manufacturing fertilizers on the spot, and a very large and new industry would spring up. The water-power of the Gatineau and Ottawa rivers is unsurpassed, and would afford every facility for grinding the ore prior to treating it chemically with the acid.

Phosphate Developments About Fort Meade.

FORT MEADE, FLA., February 18.

Phosphate mining has received a new impetus with the beginning of the new year. The advance in price, brisk inquiry and future outlook has infused new energy into the miners, and there is a good feeling prevalent among them.

There is also a very good demand for strictly first-class phosphate lands, and several important deals have just been consummated.

Messrs. Skipper, Carter and Cordery have leased a large tract of land, containing a rich deposit, on Bowlegs creek, east of Fort Meade, to Messrs. Simmons and Ellsworth Hewitt, of New York, the lessees agreeing to put up a plant with a minimum capacity of not less than 100 tons per day.

Mr. E. C. Stuart, of Bartow, has just sold a large body of phosphate land opposite Bartow, on the east bank of Peace river, to a Pittsburg company. The Foote Commercial Phosphate Co., of Bartow, has closed a contract with Mr. H. F. Mayfield for the erection of a complete plant of 100 tons capacity. The Mayfield patent washer and drier will be used for the first time in this plant.

The Florida Phosphate Co., Limited, of Phosphoria, after long experimenting, have perfected the special machinery required to separate the tough clay matrix from the pebble, and are at present, the writer is informed, shipping about seven carloads a day.

The Homeland Pebble Phosphate Co., after being handicapped for want of transportation so long, have at last completed the railroad to the works, and are mining and shipping several carloads a day.

The immense deposits of high-grade pebble around Fort Meade attracted attention very early, and there are six companies already mining, while it is reported that Messrs. Simmons and Hewitt will begin the erection of a large plant on their leased property at an early date.

The Fort Meade Phosphate & Fertilizer Co. has been shut down for sixty days for the purpose of remodeling the system of mining. Heretofore all the mining has been done with wheelbarrows and picks, but in the future the pebble will be pumped out of the river bed, of which the company owns about two miles. The capacity will be about fifty tons of dried pebble per day. Mr. J. Northcott, of Savannah, leased this plant some six months ago, and is superintending the work.

The Virginia-Florida Phosphate Co., one mile northwest of town, is also closed down for the purpose of making changes. A Bucyrus steam shovel of 600 cubic yards capacity has been put in, and operations will be resumed in about two weeks. With the additional machinery fifty tons per day will be mined. The deposit consists of 300 acres of land pebble. 3000 tons were shipped last year to domestic markets. Mr. T. R. Dunn, the general manager, informed the writer that two cargoes of 1000 tons each were engaged in advance at very satisfactory prices, and that they could dispose of more if they had it ready.

On the south side, near the corporate limits, on the banks of the river, are located the lands and plant of the Marietta Phosphate Co., which began operations several months ago. This plant is owned by the Marietta Guano Co., of Atlanta, and the entire output is used by this company in the manufacture of its goods. The deposit consists of 300 acres, with several miles of river bed, and is said to be very rich. The

*A paper presented at the Montreal meeting of the American Institute of Mining Engineers.

plant, though quite small, is very complete in its appointments, and the capacity is fifty tons per day. A spur track connects with the Florida Southern Railroad. Capt. W. H. Warren is general manager, and he has twelve men on the pay-roll.

A short distance down the river, on the west bank, is the huge plant of the United States Phosphate Co. This company is composed of Boston capitalists. Mr. W. S. Cogswell is general manager and Mr. A. Gartner, superintendent. The plant is a large one and very complete in its equipments, cost about \$35,000, and has a full capacity of 100 tons of dried pebble per day. The dry-bin holds about 2,000 tons. Twenty men are on the pay-roll, and from thirty to forty tons per day are now being mined. The deposit consists of 640 acres and about two miles of river bed. The company commenced mining about thirteen months ago and have shipped to date between four and five thousand tons. They now have a standing order for all that can be mined in the next three months, and Mr. Gartner says they could easily sell 3,000 tons now if it was ready. Shipments are made via Port Tampa and inland, all to domestic markets. A spur track from the Massachusetts Phosphate Co.'s plant, 400 yards down the river, connects the two plants with the Florida Southern Railroad at Acme. This plant has a very picturesque location, being surrounded by tall cabbage palms and huge live oaks, from which depend long pendulous festoons of Spanish moss.

The Massachusetts Phosphate Co. is also composed of Boston capitalists. Mr. John Beatty is general manager. The plant is one of the largest north of Arcadia, and is very complete in machinery equipments. The cost, including a fine machine shop, was \$60,000. About forty tons per day are now being taken out, though it has a capacity of 100 tons. They have storage room for 2400 tons and have 1500 in the bin. A cargo will be shipped about the 20th via Port Tampa. The freight rate to that port, including wharfage, is \$1.65 per ton. The deposit consists of 160 acres situated on both sides of the river. Thirty-two men are employed. Mining was commenced last November. A canal has been cut from the river, and the dredge is pumping in a land deposit a short distance inland. The entire deposit will be worked in this manner. The dredgeboat is run night and day. The wet screen has been causing a great deal of trouble by breaking down once or twice a week. A new one has been ordered and will be put in about the 20th. Messrs. John Beatty and Robert Bleakey, of the Bone Valley Company, are large stockholders in this company. All these companies use rotary driers with the exception of the Virginia-Florida, which uses a brick drier.

A mile down the river is the plant of the National Peace River Company, a description of which will be given in a future article. The combined pay-roll of these companies amounts to about \$1500 a week, and it has a very stimulating effect on all kinds of business. NODULE.

The Florida Phosphate Exchange & Export Co.

The Florida Phosphate Exchange & Export Co., with a subscribed capital of \$25,000, limited to \$500,000, with a branch office in London, England, has been established in Brunswick, Ga. The intentions of the company are to handle phosphate shipments, and with that end in view it has bought wharf and other property, commenced the erection of dock, warehouses and the necessary amount of railroad that they will need in handling their shipments. So complete will these arrangements be that the company intends to load cargoes of 2000 tons in thirty-six hours. Representatives of the company are now in Florida on business for the company, and

shipments will soon commence. The officers are M. Isaacs, president; A. A. Rowland, first vice-president; G. W. White, second vice-president; John E. Tyler, secretary and manager; L. E. Gwynn, treasurer; L. J. Brown, attorney. The directors are composed of the same gentlemen with the exception of W. A. Kernon, John E. Tyler, Atlanta, Ga.; I. A. Ivey, Bradford, Fla., and A. H. Carroll, Charleston, S. C. The directors all have good rating, are thorough business men and will benefit Brunswick and the phosphate shippers by their organization.

Phosphate Markets.

CHARLESTON, S. C., February 20.

There is more activity apparent in the general phosphate market, and the volume of business is showing up much better than for some time. Considerable business is being done for future delivery, and prices close steady without change. The steamers for New York took out about 715 tons of phosphate rock, and the brig H. B. Hussey 850 tons of phosphate rock for Weymouth, Mass. The quotations at the close are as follows: Crude land rock \$4.00, hot-air-dried \$4.50 to \$5.00, crude river rock \$3.75, and hot-air-dried river rock \$4.75 to \$5.00. Ground rock is steady at \$7.50. The comparative exports of crude phosphate rock and ground from the port of Charleston from September 1, 1892, to February 17, 1893, and for the same time in 1891, are as follows:

Destination.	1892-93.		1891-92.	
	Crude.	Ground	Crude.	Ground
Baltimore.....	18,975	.....	25,191	.....
Philadelphia.....	9,660	.....	7,764	.....
Boston.....	.....	.....	.....	.....
Elizabethport.....	.....	.....	.....	.....
Wilmington, Del.....	2,078	.....	600	747
Barren Is., N. Y.....	.....	.....	1,673	.....
New York.....	5,457	1,641	5,658	1,613
Mantua creek.....	1,319	.....	2,057	.....
Weymouth.....	6,940	.....	8,725	.....
Richmond.....	4,449	.....	3,851	.....
Scaford, Del.....	600	.....	600	.....
Newton ck., N. J.....	1,678	.....	1,078	.....
Wilmington, N. C.....	665	.....	450	.....
Welsh Point.....	.....	.....	.....	.....
Orient, L. I.....	.....	.....	1,890	.....
Other ports.....	2,790	.....	2,490	300
Total exports.....	53,937	1,641	62,027	2,660
By railroads.....	.....	.....	35,600	1,613
Foreign ports.....	175	.....	442	.....
Grand totals.....	54,112	1,641	98,069	4,273

SHIPMENTS OF PHOSPHATE ROCK FROM CHARLESTON, S. C., FOR JANUARY, 1891, 1892 AND 1893.

Domestic Ports and Railroads.	1891.			1892.			1893.		

Baltimore.....	10,920	6,364	1,130	.....	.....	.....	.....	.....	.....
Philadelphia.....	.....	901	2,333	.....	.....	.....	.....	.....	.....
New York.....	800	720	600	.....	.....	.....	.....	.....	.....
Newtown creek, N. J.....	1,395	.....	.....	.....	.....	.....	.....	.....	.....
Wilmington, N. C.....	1,155	.....	300	.....	.....	.....	.....	.....	.....
Barren Island, N. C.....	1,372	.....	.....	.....	.....	.....	.....	.....	.....
Weymouth, Mass.....	900	2,330	1,710	.....	.....	.....	.....	.....	.....
Richmond, Va.....	1,804	.....	552	.....	.....	.....	.....	.....	.....
Wilmington, Del.....	793	.....	500	.....	.....	.....	.....	.....	.....
Cartaret, N. J.....	1,725	.....	.....	.....	.....	.....	.....	.....	.....
S. C. R. R.....	1,470	5,111	381	.....	.....	.....	.....	.....	.....
C. & S. R. R.....	2,078	1,900	777	.....	.....	.....	.....	.....	.....
N. E. R. R.....	356	260	831	.....	.....	.....	.....	.....	.....
Total.....	22,943	19,311	9,116	.....	.....	.....	.....	.....	.....

*South Carolina Railroad for December and January, 1892 and 1893.

The shipments of ground rock in 1893 amounted to 713 tons.

The phosphate industry of the State has been in a very mixed condition for some time, owing to the Coosaw litigation, and the general depression of the phosphate markets is giving way to an active movement. The movement of South Carolina stock has taken a big bound within the past month or two as compared with the trade during the litigation. State Phosphate Inspector A. W. Jones has just issued an interesting statement showing the exact condition of the phosphate business of South Carolina. He says the comparative shipments, both coastwise and foreign, of river phosphate rock from September 1, 1892, to January 31, 1893, and for the corresponding period of 1891-92 are as follows:

Month.	1892-93. Tons.	1891-92. Tons.
September.....	13,179	6,907
October.....	12,610	6,707
November.....	12,399	7,600
December.....	13,471	2,941
January.....	23,432	9,842
Total.....	75,091	33,997

Of the above shipments for 1892-93, 47,972 tons were foreign, 20,788 tons coastwise and 6331 tons Beaufort and Charleston. In 1891-92 the foreign shipments were 15,805 tons, coastwise 10,213 tons and Beaufort and Charleston 7979 tons.

FERTILIZER INGREDIENTS.

The market for fertilizers is at present on a boom, and the demand for ingredients is quite active, while offerings are light and readily taken at current figures. Manufacturers are shipping largely, and stocks are firmly held under the present urgent demand from all points in the State. Ingredients are quoted as follows: Kainit, \$12.50; acid phosphate, 13 per cent., \$9.50; dissolved bone, \$9.50; ammoniated fertilizers, 2 per cent., \$18.00 to \$18.50; ammoniated fertilizers, 2½ per cent., \$19.00 to \$19.50. The business as indicated by the purchase of fertilizer tags in Columbia, S. C., seems to be very active this season. On the 13th inst. 94,000 tags were furnished various companies doing business in the State. The Southern Cotton Oil Co., of Columbia, purchased 10,000 tags, 8340 of which were for fertilizers and the remainder for cottonseed meal. There are eighty tags to the dollar on cottonseed meal and forty to the dollar on fertilizers.

FERNANDINA, FLA., February 18.

The activity so far during the current month in phosphate matters has by no means been disappointing. This port continues to get its full complement of business, and everything at present is very promising for an extensive trade during the year. Among the vessels in port yesterday there were five foreign sailing vessels and seven steamers. The five foreign steamers in port now are loading with phosphate or awaiting cargoes. From present appearances this year will show largely-increased shipments over 1892. The rainy weather has retarded operations in loading, but there is every appearance of settled weather, when business in this line will move faster. The receipts of phosphate at this port have been very large so far during the month, and the daily arrivals continue without interruption. Among the vessels leaving this month may be mentioned the steamship Cosmopolitan with 1438 tons of hard rock for Hull, England, shipped by W. B. Borden & Co. The bark Heinrich Botel cleared on the 4th for Hamburg, Germany, with 750 tons of hard rock shipped by the Albion Company. The steamship Oaklands, with 1720 tons of hard rock, and the steamship Coventry, with 1150 tons, have been cleared by the Dunnellon Phosphate Co. The steamship Gardapee arrived on the 9th and is about loaded, while others are expected to join the fleet now here. The foreign clearances for this month will be the largest in the history of this port.

OFFICE MANUFACTURERS' RECORD,
BALTIMORE, February 23.

The general features of the local phosphate market have shown no material change during the past week, and the volume of transactions is moderate. Manufacturers are pretty well supplied, and vessels detained on passage by stress of weather are now arriving, so that at the moment there is very little to report in the way of sales on the spot or for future delivery. In charters the schooners Fanny Rieche and S. B. Martz are taken to load at Dale Creek, S. C., for Baltimore. The arrivals during the week are as follows: Schooners Edward G. Hight, with 700 tons of phosphate rock; Mary S. Bradshaw,

with 550 tons, and the Walter W. Rasin, with 1000 tons, all from Charleston. The schooner Jennie S. Butler, from Ashepoo, S. C., brought 650 tons of hard rock. In the list of values there is no change to report, and the market closed steady, as follows: Ashley river rock is quoted \$4.75, and Charleston at \$5.00, and for future delivery \$3.50 to \$3.75 for 50 to 55 per cent. product. Florida river pebble 60 per cent. product is steady at \$3.75 to \$4.00 f. o. b., and land pebble 67 to 70 per cent. product \$4.75 to \$5.00 f. o. b. Florida hard rock 75 to 80 per cent. product is quoted \$7.50 f. o. b. Fernandina.

FERTILIZER INGREDIENTS.

The market is nominally firm, with stocks in some cases very much reduced at points in the West. We quote as follows: Blood, 2.80 to 3.00 per unit f. o. b. Chicago; tankage, 7 per cent. of ammonia and 20 per cent. bone, \$32.00 to \$33.00 Baltimore; brimstone, best unmixed seconds and thirds, \$18.50 to \$19.50; nitrate of soda, 2½ cents per pound for spot and 2.20 to arrive; ground bone, \$28.50 to \$31.00 per ton of 2000 pounds; dissolved South Carolina phosphate rock, \$11.50 to \$12.50 per ton in bags for car lots; dried fish scrap by cargo, \$28.00, and job lots, \$28.00 to \$30.00; ground, \$35.00; wet and acidulated, \$18.00 to \$20.00; dissolved bone black, 18 per cent., \$20.00 to \$22.00; dissolved bone ash, 18 per cent., \$20.00 to \$22.00; kainit, \$11.50 to \$12.00 per ton of 2000 pounds in bags; muriate of potash, \$1.85 per 100 pounds for spot goods of 80 per cent.

Phosphate and Fertilizer Notes.

THE French Phosphate Co., of Ocala, Fla., are about to adopt tri-colored cards as shipping tags on cars which carry off their phosphate.

THE shipments of phosphate from Fernandina so far this month are 3265 tons, and in addition to this the steamship Oaklands has on board 1720 tons, and several other vessels nearly as much.

THE barkentine Formosa, from Tampa, Fla., with phosphate, went ashore on Outer Diamond shoal, off Cape Hatteras, on the night of the 19th inst., vessel and cargo a total loss. The cargo was consigned to Grallin & Co., of Baltimore, and was insured. The schooner Nathan Easterbrook, also loaded with phosphate, went ashore at a point fourteen miles north of Hatteras, and was in serious danger of becoming a total loss. The Merritt Wrecking Co. was asked to send assistance, and the steamer J. D. Jones was at once dispatched to her relief.

THE clearances from Fernandina, Fla., last week were the steamship Cosmopolitan, for Hull, England, with 1438 tons of phosphate rock shipped by W. B. Borden & Co., and the bark Heinrich Botel, for Hamburg, Germany, with 720 tons of phosphate rock.

A NATIONAL bank is one of the urgent needs of Lonaconing, Md. This town has a population of about 6000 and is the headquarters of a number of large coal-mining companies. The volume of business transacted is believed to be sufficient to place such an institution on a paying basis on commencing operation. Lonaconing is in Allegany county, which is famous for the quality and extent of its coal. J. J. Robinson, of that place, can be corresponded with by parties desiring to obtain further information.

THE late purchase by the Mathieson Alkali Works of the salt works at Saltville, Va., will cause the expenditure of large capital to develop the extensive property. The foundations of the main buildings have been laid, and a large amount of machinery has been contracted for and is being shipped, and the management expect to start producing in six or eight months.

COTTONSEED OIL.

This department is open for the full and free discussion of trade topics and practical questions, and contributions are invited from men who are identified with this industry. Items of news are always acceptable.

A Fragment of Cotton-Oil History.

About ten years ago the cotton-oil business reached a condition that promised to be a very flourishing industry, and to be of great benefit to the South in creating a new source of income to the Southern farmer. But just about the same time the American Cotton Oil Trust was created. By methods common with those aiming to create a monopoly the trust succeeded in getting control of all the cotton-oil mills except one or two, which put the trust in practical control of the seed and oil markets. Had this condition of things remained for two or three years after it was attained the trust would have become so firmly fixed in control of the business that the benefits to the South might have been permanently lost. During the short period in which the trust did have control the price of cottonseed did not average \$7.00 per ton, and the price of oil was dictated with a confidence and an insolence that a monopoly only is capable of. After obtaining possession of the cotton-oil industry in the South the ambition of the managers of the trust increased to the extent that they aspired, by their control of cotton oil, to force all the lard refiners into their combination on terms dictated by them. In this direction they did succeed in getting control of the Fairbanks Company, in Chicago and St. Louis. They had been practically successful in the entire South, and the acquisition of the Fairbanks Company put them in good position in Chicago to wage the war against the other lard refiners, and it looked at one time as if Armour, Swift and Morris would have to capitulate on terms dictated by the trust.

Suddenly there appeared at this stage a new disturbing element. Mr. Fred Oliver, of Charlotte, N. C., conceived the plans for a series of new cottonseed-oil mills to be so located as to practically cover the entire seed territory.

The Southern Cotton Oil Co. was organized with a capital of \$5,000,000, of which \$4,000,000 was subscribed, with Mr. Henry C. Butcher, of Philadelphia, president; Mr. Fred Oliver, general manager, and Mr. D. A. Tompkins, chief engineer, both the latter being of Charlotte, N. C.

Plans were prepared for eight large cottonseed-oil mills, and the work of construction was promptly begun and vigorously pushed. The new company commenced the work of construction in March, and announced to cotton-oil consumers that it would be in position to supply oil in September in large quantities. The trust people hooted at the idea that so much could be accomplished in so short a time. Nevertheless, the mills were completed and put in operation according to the announcement, and the monopoly was broken.

After about two years of operation, however, the New York and Philadelphia stockholders in the new Southern Cotton Oil Co. made a pooling arrangement with the trust for the control of the seed market in the South. When this was done Messrs. Oliver, Tompkins and their associates promptly resigned and sold their stock and organized three new companies with Mr. Fred Oliver at the head of one, Mr. John Oliver at the head of another and Mr. J. S. Price, of Houston, Texas, at the head of the third, Mr. Tompkins being connected with each as engineer.

Besides these three mills these gentlemen were also instrumental in causing other companies to be organized, and about sixteen other smaller mills were built in the same year. The new mills, being all of modern design, were able to live at

higher prices for seed and lower prices for product than the trust, and the result of about one year of competition was that the trust practically went to the wall and two of its chief officers were put out in disgrace.

Since its organization the trust has been several times reorganized, but until it fell into the hands of the present managers its plans have always been to monopolize the business and take away from the South the just benefits that ought to have accrued from a proper development of the cotton-oil industry. The present management abandoned the trust idea entirely, and made a reorganization on the basis of a legitimate corporation amenable to the laws, as every corporation and individual should be. They recognized the right of Southern men or anybody else to build and operate an oil mill, and as a consequence the business is now in a more healthful condition than it has ever been, both for the farmer and the millman. The business has so developed that from \$7.00 per ton, paid by the trust about six years ago, the price of cottonseed has advanced to \$18.00 and \$20.00 per ton, and the markets and uses of oil have been so extended that the price of oil has advanced to fifty and sixty cents per gallon. The hull, which was a refuse product six years ago, now sells readily at \$3.00 to \$5.00 per ton at the mills as a cattle food, so that from the 1,500,000 tons of seed worked, the hulls alone are now worth to the mills and to the South \$3,000,000 annually.

There has never been a case where the value of healthful competition to everybody was more clearly exhibited. The farmer is better off, the mills are better off, and the old trust has been turned into a legitimate business institution, and it appears to be prospering under its new organization and management as it has never done before.

At present prices the 1,500,000 tons of seed now worked by the mills yield to the farmer about \$30,000,000. The products from the mills are worth over \$50,000,000 annually, and in the present condition of things most of this money goes to the South. Besides these results, an immense business is being developed in fattening cattle for the markets, and an abundant supply of excellent and cheap food has been provided for dairy cattle and for cattle on farms. All in all, the cotton-oil business has become an important one to the South, and the South is to be congratulated on the condition it is now in, viz., of healthful competition in which the farmer and the mills alike seem to be getting more benefits than either have ever done before, and what is better still, the prosperity seems likely to last.

Cotton-Oil Activity in South Carolina.

COLUMBIA, S. C., February 20.

The present boom in fertilizers in this State is now attracting widespread attention throughout the country, and the activity in cottonseed oil and its advance in price is the subject of much discussion among manufacturers. Your journal has lately noticed this remarkable development of an industry only a short period of time in existence, and is giving special attention to the cottonseed-oil market. As an instance of how this industry is growing, I might state that there are now something like twenty-five oil mills in this State, and every one of them running twenty-four hours a day. Cottonseed oil has advanced from something like twenty cents per gallon to nearly sixty cents. Sixty-cent oil has caused an advance in cottonseed to thirty-three cents per bushel, and some farmers are asking forty cents a bushel, and at these prices is draining the country. The cottonseed-oil mills have within the last ten days received over 5000 tons of seed; of course every ton of seed sold means an extra demand for fertilizers. As to fertilizers, the ingredients which compose them are all going up in price, and dried

blood tankage and other ammoniated materials are now 33 to 40 per cent. higher than last year.

The Cottonseed-Oil Market.

NEW YORK, February 21.

The position of the cottonseed-oil market towards the close of last week developed some dullness and is slightly weaker at this time. There were few buyers for any important lots excepting some foreign oil, and buyers were generally attempting to force easier prices, but offering through several channels smaller lots of oil. The trading by local consumers has paused for the time being. This is due partly to the falling off in the business of compound lard, and also to the fact that local lard refineries have been quietly taking up some pretty full lots of American oil to be shipped here from Italy. These reshipments were held in Italy partly on Holland account, and they have been sold here at very low figures comparatively. The terms upon which these lots have been sold, however, are making the buyers stand all risk of cooerage and loss in weight while in transit, which may or may not be a serious matter. These purchases, however, with their previous holdings, have put them comparatively in an independent position for the time being. The amount of this foreign oil already shipped and awaiting shipment from Italy and Holland reaches about 6000 barrels. It has all been bought to arrive chiefly by two local refiners, and was sold because it realized a profit of fifteen to twenty cents per gallon to the seller, having been bought here quite early in the season. They were especially ready to sell and reship here, as they have been able to provide themselves with substitutes through the purchase of Sesame and Arichides oils. The prices paid for these reshipments were mainly fifty-eight to sixty cents for prime yellow.

So far as we can learn these shipments appear to close out about all the cheap oil to be had in those countries, for orders were sent out for additional large lots and no further offers to sell were obtained. Small lots of English oil have been received, but the stocks here continue light. All articles that enter into consumption with cottonseed oil are at least holding their own, and in instances are making further advances on the small supplies.

A little more seed is being received by the mills in some sections, but there is not enough in sight yet to vary the position. Nevertheless, buyers are now holding aloof from the market to a large extent. Sales have been made of prime yellow at sixty-three, prime crude at fifty-six cents, with one lot of 200 barrels to arrive at fifty-five. It is quite difficult to obtain bids for any oil on dock. Prime white is quoted at seventy cents. We can generally expect a dull market for the months of February and March, and the dullness and weakness apparent this week is something which has been expected for some time past. It looks as if it was merely an effort on the part of consumers to reduce prices in order to buy cheaper. Whether it is only that it is hard to tell. Lard, however, appears to hold its own, and there is nothing in the situation to justify an expectation of any material decline.

HOPKINS, DWIGHT & Co.

Cottonseed-Oil Notes.

COTTONSEED in Augusta, Ga., has advanced in price nearly twenty-five cents since the cotton crop of this year was gathered. The product started out at ten cents per bushel, and is now worth thirty-three to thirty-five cents. The active demand for the seed for fertilizers and for the manufacture of oil has caused this unprecedented advance. New uses for the seed are being discovered every day. A prominent Carolina agriculturist says: "The people are making more money out

of their cottonseed than they did out of their cotton. They are now looking for some species of the plant that will produce all seed and no lint.

AT Caldwell, Texas, a charter for a \$40,000 oil mill and ginning company was granted on the 13th inst. Half of the stock is already subscribed and paid in, and the mill will be in operation by the beginning of next season.

THE enterprise of the Southern Cotton Oil Co., of Columbia, S. C., is causing favorable comment among the farmers of the State. The farmers are loading their seed as rapidly as they can obtain cars, and buying their fertilizers at cash prices. The receipts of cottonseed at Columbia are larger than ever known before. During twenty-four hours 167 cars of cottonseed arrived in Columbia consigned to the local oil mills, of which 106 cars were consigned to the Southern Cotton Oil Co., which first made the offer to farmers to exchange cottonseed for fertilizers.

COTTONSEED hulls in Hallettsville, Texas, have advanced from \$3.00 to \$6.00 per ton, and oil mills are buying them up at the latter figure.

AT Mexia, Texas, Scales & Culbertson have commenced digging for the foundation for their oil mill, which will have a capacity of seventy-five tons a day.

AT Midway, S. C., thirty-two cents is being paid for cottonseed, and some farmers are holding it at fifty cents. The railroad officials have refused shipments for the present until the blockade is broken at the oil mills at Columbia.

THE Sherman Oil & Cotton Co., of Sherman, Texas, is furnishing its new \$300,000 plant with a great deal of machinery of a pattern and style especially drawn up and devised by experts in the business. There is nothing like this machinery in any other mill, and it is understood that patents will be applied for on the whole machinery.

MR. GEORGE C. DODD, of the Jacob Dodd Ducking Co., of Kansas City, Wichita and Buffalo, was in Houston on the 16th inst. looking out for the contemplated oil mills which it is stated will be built in Houston at an early date. He states that Houston possesses better facilities for these industries than any other city in Texas.

THE Brownwood (Texas) Cotton Oil Co., of Brownwood, Texas, has purchased site and closed contract for the erection of a 60-ton cottonseed-oil mill. Contract for necessary buildings will be awarded in a few weeks. The above concern was granted a charter several weeks ago with a capital stock of \$50,000. As announced in this column last week, the incorporators are W. Scott, G. H. Connell and A. A. Hartmore.

THE Victor Oil Co., one of the largest concerns operating in the Eureka and Sistersville (W. Va.) oil fields, has been bought out by the Standard Oil Co. It is stated that the cash consideration was \$500,000.

WORK will commence at once on a cottonseed-oil mill at Yoakum, Texas, to be erected by the Yoakum Oil Mill & Manufacturing Co., to which a charter was granted several weeks ago. The incorporators are Daniel T. Price, J. A. Younger, O. Roos, J. P. Stevenson and Jno. Blanks, and their capital stock is placed at \$75,000.

THE two oil mills at Columbia, S. C., have received in ten days, to February 18, over 10,000,000 pounds of cottonseed, and have over 100 cars side-tracked awaiting delivery.

THE Caldwell (Texas) Oil Mill, to which a charter was granted recently, has not yet placed the order for the machinery, but expects to have a complete plant in operation by September 1 next. William Reeves is president of the company, and its capital stock is placed at \$20,000.

RAILROAD NEWS.

[A complete record of all new railroad building in the South will be found in the Construction Department, on page 79.]

The News of Wall Street.

[From our own Correspondent.]

NEW YORK, February 22.

Being Washington's Birthday and a Stock Exchange holiday, we can sit down and review calmly the causes of the most extraordinary convulsion that the Exchange has seen since it began, not excepting the Black Friday-Erie era at that. It seems, indeed, one of those lucky lulls for and ordained to fit this special emergency, for here is all the financial world convulsed by a sudden spasm, shaken to its very centre by a mysterious weakness in a leading stock—Reading. The antics of the traders have seemed more like a stampede of a herd of cattle on the plains than the logical result of the reasonings out by thinking men. Wall street was stampeded sure enough. A cattleman with whom I was talking Monday, when the transactions on the Stock Exchange, thanks to its modern clearing-house system, exceeded in volume those of any day in its history (nearly 1,000,000 shares of Reading were sold), told me that it was very like a cattle stampede. The half-wild bovine communities of the plains need very careful handling. A queer shadow cast by the moon is sometimes sufficient to transform a quiet, peaceful herd into a condition like that of an army in a rout. What "*sauve qui peut*" means to the human cattle the bellow of terror from one nerve-shaken bull means to the cowboys' charges.

Now let us look at the Reading "collapse" in the light of this cattleman's rude simile. There were no facts to go on beyond these: The mysterious telegraphy of the street told that some of the people behind the Reading combination, which, by the way, is one of the most ambitious that has ever struck "the street," were in financial straits and needed to jettison a very heavy cargo of Reading shares and bonds which threatened to sink them. The stock dropped like a lead weight in a vacuum. So did the bonds. No news, only rumors, accompanied the first beginnings of the fall in the latter part of last week. Long stock was dumped overboard "regardless," as the clothing sale merchants say. Within a week, without warning, Reading shares dropped to \$28.00 a share in New York, which really means \$14.00 a share, for transactions here are on a \$100 a share par value basis, while the shares themselves represent only \$50.00 as par.

The rumor began to fly around that Mr. J. Pierpont Morgan was behind the fall in Reading stock. Mr. Morgan's is a name to conjure by in Wall street. Mr. Morgan equivocally says that no share of Reading has been bought for him "to his knowledge." Mr. Morgan probably knows, however, why the Reading is now in the hands of three receivers; why the tremendous amount of long stock was dumped upon the market, and why the nominal value of the Philadelphia & Reading Railroad Co.'s securities have declined in value many millions of dollars, better than any man in New York. The Drexel party, of whom he is the executive representative, has its seat in Philadelphia, but its work is done in New York. Mr. Morgan's is the mailed hand that strikes. Mr. McLeod, I happen to know, conceived a great scheme for the development of the Reading from the condition in which he found it into the dominant power which its situation on the railway chess-board entitled it to. Once let the pawn reach its goal and it would become a queen. The Drexels made some millions out of the Reading. They encouraged the company and its friendly interests to extend its influence into New England. The purchase of

the Poughkeepsie Bridge route was hailed with acclaim as a natural branching out of the interests involved in the Reading's development. Then came the masterly stroke of a combination of the anthracite coal-originating and coal-carrying roads that woke up our Wall-street friends to the fact that a new Napoleon of railway war had sprung into being; that one Archie McLeod was a new star rising from the horizon. The logical result of all this was the continued effort by Mr. McLeod and his backers to control other railroads in New England. There was the New York & New England road, a Hessian in the field; there was the Old Colony, which had its price; there were Vanderbilt ambitions ready to take advantage of any break-up to add to their own influence in the rich traffic of New England, hitherto dominated by that old hierarchy of conservatives, the New York, New Haven & Hartford party, to whom modern railway methods must have seemed as heretic and blasphemous as anything Ingersoll has ever said could seem to a blue Calvinist.

So the Reading had to fight and antagonize interests of which even Mr. McLeod perhaps little dreamed when he became head of the Boston & Maine. I am inclined to think, though, that he did know whom he was hurting, what enemies he was making, and was prepared to meet the consequences. When it came to putting the issue to the touch, Mr. McLeod and his friends found that defiance of Mr. Pierpont Morgan meant bitter war. For Mr. Morgan's interests in New England are among his most cogent claims to the title of "the conservator" of the financial interests of this country in the realm of railways and finance. Just what Mr. Morgan has done, just what he is driving at, I am unable to learn from the features of the panic-stricken street. I can only infer the platitude that a battle of giants is going on, which any schoolboy could tell you from reading the daily newspapers.

Now here is the situation up to date. Reading securities have depreciated by an amount equal to what they gained last year, when the stock went up to 60 and better. Reading credit has been made nil. The road is in the hands of receivers friendly to its interests by the voluntary act of those behind its schemes. The friendly receivership proceedings are distinctly a point gained from the sudden end of the road. There are other millions in Wall street besides those of the Drexel-Morgan interests, great as they are. The Reading Company's adversity has not broken up the anthracite coal combine, which has weathered the storm nicely. Mr. Archibald Angus McLeod has not yet been ousted from the management of the Reading, and its progressive policy is only halted by a receivership which may be over in a few weeks or months at the furthest. The company is as solvent as the MANUFACTURERS' RECORD's publishing corporation, but it has assets not immediately convertible. Had it not been for the attack engineered by a strong bear party directed by the friends of Mr. J. Pierpont Morgan and influenced by the heresy-hunters of New England, the receivership would have been unnecessary.

I stake my reputation, in short, upon this statement, namely, that he who bought or buys Reading at prices below \$30.00 in New York, and bought plenty of it, is going to be thankful for the inspiration the rest of his days.

It is still a question whether or not the New England Railroad's control is in the hands of the leading party. I am inclined to believe that it is. I know the man. Mr. McLeod's firmness was demonstrated in the days when he emancipated his management from the tyranny of the Knights of Labor. He has said: "I would rather run a one-horse country railroad than submit to the dictation of Mr. Morgan." He

is a Scot of the Scotchmen by blood and character, and he is not done fighting. Rounding up the whole business, I think the panic in Reading was a great mistake, which was aided to a great extent by the superficial view which the New York daily newspapers have taken of the whole situation.

Supposing now that Mr. McLeod comes out of this struggle on the top of the heap. Suppose that Mr. Morgan's allies, who have forced him into this war with a friendly power, lose the battle. It is quite possible. It is even probable. Reading's recuperative powers are almost proverbial. The receivership, grave as receiverships are, is an accident of Wall street, not of railway business. The road will continue to make big money; the hard winter helps it toward financial strength. But it is well to bear in mind that this struggle represents not the solvency of the Reading Company, but the grit of the Reading party pitted against the undoubted strength of the financial magnets with whom Pennsylvania Railroad interests and Consolidated Road interests outweigh the Reading's.

Buy Reading, conservatively, of course, and you'll make money.

I would like to devote a paragraph to the the superficial treatment by the New York daily newspapers of this most momentous struggle in Wall street. Every-day developments have been as far as the able financial writers have cared to see. The facts that the Reading system is intact and that sturdy McLeod may yet win are only beginning to dawn upon them. It is a characteristic of your Wall street daily writing expert.

* * *

For the rest of the market prices, of course, have sagged somewhat, mainly because of the disturbance in the money market influenced by the tremendous convulsion and unprecedented trading in Reading shares and bonds. This upheaval naturally disturbed the loan market, already made sensitive by the gold scare, which, by the way, has faded almost out of sight so far as general gossip is concerned. The banks again discriminated against the industrials, as they had a perfect right to do, but it strikes me as an unnecessary policy in this case. Here are good dividend-paying shares and debentures and secured loans of many kinds with a definite market value. The banks, when comes a street slump, won't lend on securities worth from par and better to twice par and better, simply because they are of the so-called industrial class. There is good money to be made out of such collateral loans, and there is a ready market on 'Change for the collateral if the lender finds himself losing confidence. Talk about real estate security! Why any current stock is as safe a collateral as diamonds, and in these days even safer.

* * *

As to the gold and silver question, I think my remarks on the situation have been amply confirmed in Wall street and in Washington. Gold continues to go out in comparatively small quantities. Exports will no doubt continue. But the government credit is back of our silver-paper dollar. The Sherman act will be repealed, and if it is found necessary steps have been taken to give the treasury power to issue bonds for gold. If we could only persuade the Congress that the nation's credit is not a matter of politics!

A New West Virginia Railroad.

A meeting of the stockholders of the Point Pleasant, Buckhannon & Tygarts Valley Railroad, which was chartered in December last by the secretary of the State of West Virginia, was held at Buckhannon, W. Va., last week, and the following directors were elected: J. W. Heavner, J. H. Hanson, John Crislip, C. W. Hart, J. G. Hall, William Post, John L. Hurst, T.

J. Farnsworth, W. G. L. Totten, Dr. S. C. Rusmiser, Ira Ward, C. J. Goff and David Poe. The directors organized by electing J. W. Heavner, president; J. H. Hanson, vice-president; William Post, treasurer, and W. G. L. Totten, secretary. This company proposes to build a road from Belington, Barbour county, W. Va., to Point Pleasant, in the same State, by way of Buckhannon and the Tygarts valley. The work of making a preliminary survey has not yet been undertaken, but the company has secured the means necessary to begin that work this spring. The line, as roughly mapped out by the incorporators, is the most daring piece of enterprise in the way of development undertaken in West Virginia since Davis and Elkins built their West Virginia Central road through the wilderness of Mineral, Tucker and Randolph counties a few years ago. The line is practically an extension of the West Virginia Central from Belington, which is now one of the termini of the West Virginia Central, to the Ohio river. The country through which it will pass has already seen considerable development, but the timber and coal are practically untouched along the greater portion of the route. President Heavner states that the company sees its way clear to an early consummation of its plans.

Choctaw Coal & Railway Co.

Under the plan of reorganization for the Choctaw Coal & Railway Co., it is proposed to issue a first mortgage of \$4,330,000, a second mortgage of \$3,800,000, and the stock amounting to \$3,750,000 is to remain untouched. All the bonds are to bear interest at 5 per cent., and the fixed charges under the plan would be \$275,000 a year, but the second mortgage interest is not obligatory until three years have elapsed. The proceeds from the sale of the first mortgage bonds are to be used in paying off the receivers' certificates and building 122 miles of new road. The company was chartered in 1888 to build a railroad easterly to Little Rock, Ark., and westerly to Albuquerque, N. M., with a branch to Denison, Texas. It built ninety-seven and one-half miles of road in Oklahoma Territory and went into a receivership in January, 1891.

West Virginia Central.

The West Virginia Central & Pittsburg Railway Co. is suffering from the inability of connecting lines to handle the freight for tidewater that is offered them, and this has caused a decrease in earnings, although the company has probably more business in sight than at any similar period in the past. The approximate gross earnings for January are \$69,880, expenses \$50,679 and net earnings \$19,201, a decrease of \$7155. For the six months the gross earnings were \$621,226, expenses \$415,909 and net earnings \$205,317, a decrease of \$17,993. The company has taken preliminary steps to build its line to Hagerstown, Md., where connection will be made with the Cumberland Valley and an additional outlet for its tidewater business secured. This will enable the company to largely increase its freight capacity, but eventually the road will have to come to Baltimore, which is its proper deep-water terminus.

Railroad Notes.

REPORT has it that the Baltimore & Eastern Shore Railroad Co. will shortly pay off the lien on the road, under which a receiver was granted, and assume charge of its property.

THE Georgia Midland & Gulf has executed a mortgage with the Central Trust Co., of New York city, as trustee, to secure the new 4 per cent. bonds which take the place of the outstanding bonds of the company, and which bear interest at 6 per cent.

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BALTIMORE, FEBRUARY 24, 1893.

THE question of less dogs and more sheep will have an earnest advocate in Judge E. M. Spilman, of Warrentown, Va. Recently the dogs got in his flock and in one night killed thirty sheep. Such depredations are not unusual, but there seems to be a general apathy on the subject among the majority of farmers from which nothing will stir them.

THERE is every evidence that the acreage of Sea Island cotton will be considerably reduced during this coming season. Many planters of this long-staple variety have already put corn in, and will not give more than half the usual amount of land to cotton. The crop for the present season was estimated at about 80,000 bags, but the returns up to the present time indicate that it will not likely exceed 50,000 bags. With this shortage there has not been a compensating increase in price, and planters are convinced that should they plant for a large crop the prices for the coming season would not exceed twelve cents, which is below the cost of production.

THE annual discussion over the appropriation for expediting the postal service from New England to Tampa and intermediate points has occupied a considerable share of attention in Congress during this week, the substance of the arguments on each side of the question being given by our Washington correspondent in this issue. As usual, the item of \$196,000 is allowed to stand, although this year it is qualified by a proviso which leaves the use of this appropriation to the discretion of the Postmaster-General. We do not believe that Mr. Bissell, who will succeed Mr. Wanamaker as administrator of our postal system, will find any occasion to withhold the use of this appropriation, as it facilitates the South Atlantic mail service in a degree that would be immediately and inconveniently felt if it should be discontinued. The business interests served by this "special-facility" appropriation are too

extensive and too important to be permitted to suffer from any neglect arising from a small economy in the postal service.

Convicts and Public Roads.

The legislative committee on roads in North Carolina has prepared a bill regarding the use of convicts for this work which embodies many excellent features and deserves the attention of those interested in these two important subjects—improvement of public roads and the utilization of convict labor. Both of these have been strongly agitated for some time past, but as yet no definite action leading to the union of the two has been taken in any State.

This bill provides that after June 1 all able-bodied convicts may be worked upon the public roads on the basis of one for each \$70 raised in any one county by taxation for road purposes, provided that not less than twenty nor more than fifty shall be assigned to any county. The county pays such expenses as may be incurred by the convict working for it and pays to the State \$70 per annum, which amount, in case of prisoners in county jails, the latter shall allow per year to each convict. It permits counties to levy a road tax of not more than twenty or less than five cents per hundred dollars on property, and further, allows two or more counties to join together in working such roads as are a common benefit. It provides that convicts incapable of hard labor shall be assigned to each working squad to do washing, cooking and similar work. The discipline and policing of the convicts is to be done by the penitentiary authorities, but all road work shall be performed under the supervision of a competent civil engineer or superintendent of roads appointed by the county.

These provisions are simple and explicit. The county pays the expenses of the convict, \$70 per annum for his services, and provides an engineer to lay out and supervise the work. The State attends to the safety of the prisoners and pays the guards who are placed over them.

The only fault which appears is that the maximum rate of taxation for road purposes seems rather low. It would be sufficient for repairs and maintenance, but not for any considerable amount of new construction. The probable expense of employing twenty convicts and an engineer, and of securing the necessary supplies and teams for a year, would not be less than \$5000, and to raise this amount by taxing property twenty cents per hundred dollars would necessitate a principal of \$2,500,000 as the value of property in a county. As the average county in North Carolina contains about 270,000 acres, this would represent a valuation of \$9.00 per acre, which would be considerably below the value in certain portions of the State, but much above it in others.

This is a matter of detail, however, for further consideration. The general tenor of the bill is good, and one feature which will be noticed with pleasure by everyone interested in the convict-labor question is that there is no provision permitting the lease of convicts to contractors or companies. Indeed, this latter feature is apparent in every Southern State now leasing its convicts. In

Alabama, Tennessee and Arkansas bills are being considered regarding convict labor, and in each there is a determination to break up the lease system so soon as existing contracts have expired. If they will go further and adopt a plan similar to this one proposed in North Carolina, we may hope to have in the South a perfected system of public roads which will challenge comparison with those of any part of this or any other country, and at the same time a long step will have been taken towards the solution of the troublesome convict-labor problem.

A Bright Outlook in the South.

Throughout the South there is a marked revival in industrial matters and many new enterprises are being established. A number that were projected during the boom days, and which collapsed when the panic came, are being pushed to completion now, or are being reorganized preparatory to active work again. It will be some time yet, though, before some of these crippled concerns can be put on their feet, but the outlook grows steadily brighter. Local financial interests have been strengthened, debts have been paid, and the South generally has been putting its business affairs in order during the past two years. The confidence of outside capitalists in the South as a place for large investments has been greatly increased by the manner in which that section has stood the financial strain, and Northern money will in the future go into Southern manufacturing enterprises very freely.

Southern papers generally are rejoicing over the early completion of the Watts steel plant at Middlesborough, as the success of this great concern will be as important to all Southern industrial interests as the success of Birmingham's first furnaces was to the iron interests of that section. The success of this plant will show that the South can make basic steel on a large scale and at a profit. One of the Watts furnaces has gone into blast, the other is ready, and the steel plant will, it is said, start up early this spring. Over \$2,000,000, it is claimed, have been spent on this combined iron and steel plant. Middlesborough is also to be congratulated that the South Boston Iron Works, one of the oldest foundries in New England, is now carrying out its contract of removal. Its immense buildings at Middlesborough have been completed and twenty-five or thirty carloads of machinery have been received, while a hundred or more will follow as rapidly as it can be handled. One year ago the outlook at Middlesborough was very gloomy and its future looked dark, but it weathered the storm and is now rapidly improving.

At Basic City the car works which were built during the boom, and which never went into operation, have been leased and will soon give employment to 200 hands or more. At Staunton the growth has been greater during the last two years than in any other equal period in its history, and the same is true of Charlottesville. Roanoke, where the Virginia boom centred, went through the strain with but few failures and is fast getting into strong financial shape again. Even during this period of financial rearrangements it has gone on growing and building houses and pushing its industrial interests. The enquiry for in-

vestments there from local and out-of-town people is now reported to be greater than at any time during the last two years.

In nearly all parts of the South this same steady growth, despite the panic, has gone on, and in every State there are many signs of new life and activity. This is especially noticeable in the cotton-manufacturing districts. In the Carolinas and Georgia, where cotton manufacturing is developing more rapidly than elsewhere, many new mills are going up and old ones are being enlarged. The best machinery is being put into these new mills and there is a steady advance in the production of finer goods. New England will not be permitted to enjoy a monopoly of the finer class of cotton goods. The South, having captured the market for coarse goods, will in a few years become an active competitor in the higher grades. The room for expansion in cotton manufacturing in the South is very great, and the business is not likely to be overdone unless too many mills are run on the same class of goods. Though it raises about three-fourths of the world's cotton crop, the South has only 2,500,000 spindles out of a total of 80,000,000 in the world. With almost unlimited water-power running to waste in parts of the South, and with cheap coal in other parts, this section can manufacture its own cotton, utilize its cottonseed and compete with the world in cheap output of goods. But this cannot all be done in a day nor in a year. It takes time to build mills, to accumulate capital, to train skilled help, but this is being done, and the progress in cotton manufacturing which is now seen gives promise of a vast enlargement of this industry within the next five years.

So much money has been wasted in gold-mining schemes in the South that the great majority of business men in that section, as well as in the North, look with suspicion upon every reported gold-mining undertaking. The failures have been widely heralded, but the successes have had but little publicity, though there are companies which find gold-mining in the South very profitable. If the inside history of every failure could be written it would be found that it furnished no real ground for discouraging gold-mining operations, for bad management, worthless machinery and stock-jobbing have had more to do with these failures than any lack of gold ore. According to the New York Press there is a revival in gold-mining operations in the West. That paper says:

One result of the low price of silver has been to divert mining efforts from that metal to gold. Throughout all the West and Northwest a marked revival in gold mines and placer fields is reported. Improved methods have made possible the working of gold-bearing quartz and gravel which a few years ago would have been considered valueless. Even old abandoned placer grounds are found to yield a rich return on capital devoted to working them over by modern hydraulic methods. The Swauk placers in Washington are to be worked over again in this way. The gravel of the Missouri river in Montana, long known to carry gold, but not in paying quantities, for a hundred miles of its length, is to be brought to the surface by a powerful machine operated on a flatboat, and the gold dust and nuggets it contains be saved. The indications are that our next year's production of gold will be far in excess of last year's, and it is probable that the yield will go on increasing so long as the present high price of gold as compared with silver continues.

With this return of capital to gold-mining there ought to be some effort made to secure attention to the abundant gold ores of the South, which can be worked at a profit if rightly handled.

CORRESPONDENCE

Business Conditions at Harriman.

HARRIMAN, TENN., February 14.
Editor Manufacturers' Record:

The financial condition of this city for the month ending February 10 was even more substantial than during the previous month. Lumber sales have increased. Iron products are selling well. Collections easier than for some months. The banks report 30 per cent. more deposits than during the same time last year. Inquiries for and sales of real estate and local securities have increased over last month. The general outlook is very promising.

ALFRED E. P. ROCKWELL, Secretary.

Additional Industries in Monroe.

MONROE, LA., February 11.
Editor Manufacturers' Record:

The proposed steam laundry is now an assured success through the untiring efforts of H. F. Benoit, one of Monroe's leading and most progressive citizens. The prospects are now that Monroe will have another compress by fall, as the cotton buyers here, with a few local capitalists, have organized themselves into a company to build one.

Mr. Herman Meyer has just completed a splendid two-story office building at a cost of about \$10,000.

The city council last night bought a lot on which to build at once a large and substantial market-house in connection with a new fire-engine-house. Several propositions were made by individuals, but the city decided to build the same.

WILL R. MORRIS.

A Good Chance for Investment.

OLD FORT, N. C., February 14.
Editor Manufacturers' Record:

Will you allow me space to call attention, through the medium of a paper which has done so much for the development of our dear Southland, to one of the peculiar advantages of this our little town of Old Fort, McDowell county, N. C. I will not in this short article speak of our pure water and health-giving air, fine situation and equable climate, but proceed at once to the point for which this is written. We have a water-power flowing idly through our village which if utilized would furnish a motor to turn thousands of spindles or serve any purpose where power is needed to move machinery, generate electricity, etc. Situated on this stream is a large grist mill, the owner of which would be glad to correspond with a practical millman with a view to putting in a roller equipment and furnishing a flour to supply our home market, which is now dependent on mills in Tennessee. Any party possessed of a moderate capital can here find a chance to make money, and if this should meet the eye of a practical man he will do well to look into it, especially if he is an invalid whose lack of health demands a change of climate, for in this instance he can combine business with health-seeking; and while I can assure him that he cannot fail to be benefited in the latter particular, I believe that I have equal assurance that he will be pecuniarily benefited. And what grander combination is there than health and wealth?

W. H. DISOSWAY.

Industrial Development in Alexandria

ALEXANDRIA, IND., February 20.

The interest which is being aroused in Alexandria throughout the entire country is so great that enquiries as to its growth and its advantages for manufactures are coming in from every direction. Mr. A. A. Arthur has been busy with negotiations which will probably lead to closing contracts for quite a number of new enterprises to locate here, and which, if secured, will add 2000 or 3000 more laborers to the 7000 or 8000 to be employed by the works already here or under contract. So

many first-class concerns having abundant financial strength are negotiating for sites here in order to secure natural gas that there is no temptation to offer any inducements to weak companies, whose idle plants, if constructed, would prove an injury to the town, as has so often been the case where bankrupt companies have moved to new locations only to secure the bonus offered, and then, after building their works, let them stand idle. When such a concern as the De Pauws, of New Albany, move their great plate-glass works here and build other glass works, to employ in the aggregate over 3000 mechanics, simply because of the saving in fuel, which to them means a saving of \$300,000 a year, or 6 per cent. on \$5,000,000, the reason why other strong companies want to come is apparent. It is for the same reason that the United Glass Co. is concentrating all its works here and abandoning its plants at some seven or eight other places, and for the same reason other enterprises are seeking locations here. In the centre of the gas belt, and practically in the centre of the richest farming and manufacturing area in America, with a home market for everything that can be produced, Alexandria already has the assurance of becoming one of the leading cities of the great West. Fortunately there has been no real estate boom yet, and values have wisely been kept down to a point where every mechanic can afford to buy a lot and own his home, but it is to be feared that this period of low prices cannot be maintained much longer. The vast concentration here of industrial concerns, the great building activity and the interest aroused throughout the country are sure to have their natural effect in bringing about a much higher range of prices in the near future. With enough industries secured to employ 8000 men, and 2000 or 3000 more men practically assured, Alexandria is certain to have a population of 30,000 or more just as soon as it is possible to build the factories and to build the houses for the men to live in, and yet a large part of our real estate is held at prices that prevail generally in small towns of a few thousand people only.

GENERAL NOTES.

Brief Mention of Various Matters of Current Interest.

THE Standard Oil Co. intends constructing several steel tanks at Bluefield, W. Va., for storage purposes.

MURRAY HILL, an attractive suburb of Augusta, Ga., will soon have an electrical railroad, giving quick transit to all parts of Augusta.

DURING last year the value of building permits issued in New Orleans amounted to \$2,595,645. The total number of permits issued was 1918.

A GOLD mine in Gwynett county, Ga., which from sample ore shown appears to be a rich find, is to be developed by the Buford Gold Mining Co., of Baltimore. The company contemplates putting in a mining plant to cost \$35,000.

THE Board of Trade of Columbus, Ga., will take steps towards securing an appropriation of \$50,000 by Congress, in addition to the \$100,000 already available, for building a new postoffice and United States courthouse building in that city.

THE Turpentine Producers' Association of Louisiana, Mississippi and Alabama met in New Orleans last week to discuss the question of prices to be paid for chipping boxes. After each member had expressed his views, the meeting decided upon paying a maximum rate of fifty-five cents per 1000 for chipping old boxes and sixty cents per 1000 for chipping new ones. A committee was appointed to ascertain

the percentage of loss by fire among turpentine distillers, with a view of placing the matter before insurance companies and arranging for insurance on still properties. Several matters of minor importance were taken up and disposed of, and the meeting adjourned.

A SALE of the oil rights on sixty-four acres of land in the Sistersville (W. Va.) field, with seven wells producing 340 barrels per day, was recently made by William Johnston, of Springdale, Pa., who is said to have been the pioneer of the Belmont and Sistersville oil fields. John J. Carter, of Titusville, Pa., was the purchaser, and the price paid was \$45,000.

JOHN E. HOLLINGSWORTH, commissioner of agriculture in Texas, has issued a call for a convention of cotton planters in that State to be held March 10 at Austin. Mr. Hollingsworth says he has secured advices from the assessor in each county which show that there is a tendency to increase the acreage, in some cases 20 per cent. It is asked that county conventions be called without delay and one or more delegates appointed to attend the meeting in Austin.

DURING last week a party of Ohio excursionists, numbering 500, visited Pine City, Ga., the new town being built in Wilcox county, Ga., by Northern parties. The Pine City Tropical Home Co. is the company developing the place, and the location being in the pine belt of Georgia and as well in a great fruit growing section, it has many advantages needful for success.

MR. JAMES C. MELL, assistant chief of construction of the Suwannee Canal Co., of Georgia, which is now engaged in the work of draining Okefenokee swamp in order to get at the vast amount of timber located there, reports the work as progressing rapidly. It has been considered by many that the cypress timber deposits in that territory are worthless, but recent results show that so far 10,000 feet to the acre have been cut, and there are 80,000 acres which will cut 40,000 feet to the acre. The cutting will begin as soon as the dredge works up to the timber lands, which will be about April next.

THE little town of Unicoi, on the line of the Charleston, Cincinnati & Chicago Railroad, in Tennessee, has now some 300 inhabitants. The ore mines are preparing to ship 150 tons of washed ore per day, some of which is a high grade manganese ore. The Unicoi Inn, which has been completed at a cost of \$30,000, will, it is thought, be a very attractive summer resort and draw many people who desire comfortable quarters in this beautiful mountain region.

THE steamship Deramore will shortly leave New Orleans with a cargo of twenty carloads of machinery and forty carloads of timber for the mining camps around Stanley Falls, Africa. The machinery was ordered from Chicago, and is mainly quartz crushing mills to be used at the gold mines. The point of destination is equally distant from New York and New Orleans, but the shipment is made via New Orleans because of its superiority as a lumber centre. This is the third shipment of this character, and New Orleans is coming into prominence as an African shipping port.

THE citizens of Bridgeport, Ala., have under way the raising of a fund of \$150,000 which is to be added to a like amount from the Bridgeport Land & Improvement Co. The whole sum is to be devoted to securing the establishment of new industrial enterprises in this city. The Board of Trade of Bridgeport looks after all possible means of accelerating its growth, and is now engaged in arousing the interest of the farming community surrounding the city in tobacco culture, and proposes furnishing seed and

the required information for growing such a crop.

HEBER STONE, of Brenham, Texas, has let contract for the construction of a levee across a bend in the Brazos river to protect a large farm he owns on that stream about five miles from Hempstead, Texas. It is stated that a few hundred yards of levee work built here will protect a great extent of territory.

SINCE the location of repair shops at Brunswick, Md., by the Baltimore & Ohio Railroad the growth of the town has been rapid, and it is now quite a flourishing place. A steel bridge will shortly be built across the Potomac river to the Virginia shore that will give communication with Lovettsville, two miles distant, and will exercise a beneficial influence on the business interests of Brunswick. The Berlin & Lovettsville Bridge Co., of which Joseph D. Baker is the chief promoter, will build the structure. It will consist of nine through spans of about 174 feet each and one span of 100 feet over the Chesapeake & Ohio Canal, aggregating about 1700 feet in length. It will be sixteen feet wide in the clear, and will be supported on piers with stone bases and iron towers. The contract for the work has been awarded to H. Ashton Ramsay, of Baltimore, Md., the Eastern agent of the Youngstown Bridge Co.

AT a recent meeting of the Hammond Town Lot Co., held at the Merchants, Dealers and Lumbermen's Exchange in New Orleans, an informal report was given of the result of the recent sale of lots in the town of Hammond. In all some forty-three lots were sold, the prices ranging from \$45 to \$85 each. The following officers and stockholders of the company were present: C. E. Cate, of Hammond, La., president; T. W. McNear, of Dubuque, Iowa, vice-president; Joseph A. Edwards, of Dubuque, Iowa, secretary and treasurer, and Messrs. J. A. Wheeler, of Manchester, Iowa; John Shoemith, of Lena, Ill., and E. W. Shoemith, of Freeport, Ill. The town is an enterprise started about two years ago by Iowa people. In that time it has grown from some 200 to 2000 inhabitants, most of whom raise early fruits and vegetables and ship to Northern markets. During the past year these shipments amounted to over \$100,000. On March 15 the company will have another sale and also hold its annual meeting.

THE Louisville (Ky.) Railway Co. operates 143 miles of street railway, which is said to be a greater mileage in use than in any other city of same population. The report of the company for the calendar year 1892 shows gross earnings of \$1,270,827, operating expenses, including taxes, interest and other charges \$1,144,875, leaving a net surplus of \$125,952. Of the 143 miles of track sixty-five are equipped with electricity, and the further extension of the trolley system is under consideration.

THE Great Smoky Mineral & Mining Co., of Harriman, Tenn., owns valuable mineral property in Macon and Swain counties of North Carolina. It has promising holdings of corundum, asbestos and kaolin which it intends developing. The kaolin the company proposes to prepare for market in the neatest possible manner with a view to securing the highest prices. The officers of this concern are A. E. Rockwell, president; E. A. Davis, vice-president, and C. Hanks, secretary.

THE annual report of the American Investment Co., of Macon, Ga., is strong testimony tending to show that careful and legitimate investments in real estate in and around Southern cities brings the most remunerative returns. This company has just declared a dividend of 25 per cent. on a capital stock of \$150,000 on the results of the year's business.

TEXTILES.

[A complete record of new textile enterprises in the South will be found in the Construction Department, on pages 78 and 79.]

Condition of the Southern Spinning Industry.

DANVILLE, VA., February 20.

Editor *Manufacturers' Record*:

In spite of what "Engineer" has to say in his article in the *Boston Journal of Commerce* (copied by you in your issue of 17th inst.), recent facts have proven that the climate of the South gives this section a vast advantage in textile manufactures. The present winter has been exceptionally severe, and yet our mills have run on full time, with the exception of one or two days. Our position as roller coverers, doing work for mills located in all the territory from Virginia to Alabama, gives us the means of knowing (and feeling) at once any stoppage in cotton mills, and we are glad to say that, notwithstanding the complaints of severe weather from all parts of the country, our business has never been better, and, in fact, has largely increased during the past few months. Furthermore, we are now preparing to increase the capacity of our plant in order to accommodate our increasing clientage not only at home, but abroad—in distant fields not hitherto reached by us. The Riverside Mills of this city will this year add 26,000 spindles to their plant, and we today had an application for price-list from Texas. We look for a heavy increase of patronage this season, and will be prepared to meet it.

DANVILLE ROLLER COVERING WORKS.

A New Mordanting Process.

It appears that for a number of years dyers have been confronted with a problem difficult of solution in endeavoring to secure a deeper penetration of the dyestuffs into the fibre of cotton or wool treated. A fibre, whether it be cotton, wool, worsted or silk, will retain the color longer if that color is well set; or, in other words, if the color is made to enter beneath the outer scales of the fibre, it is likely to remain there for a long period. If, on the other hand, as is now said to be frequently the case, it is merely on the surface, the chances are that the first drenching from a rain-storm will wash it out. An intense light or bright sun is also calculated to seriously injure a fine, delicate tint that happens to be no more than surface deep.

The art of dyeing cotton, wool, worsted, silk or other fibre is embraced in two fundamental principles—first, mordanting, and secondly, dyeing. The essential object of the first is to permanently fix or glue upon the textile a substance capable of uniting with the dyestuffs, and then in turn precipitating the latter upon the fibre. The cut presented herewith illustrates the principle and use of the mordanting process. In this diagram the relationship of both the mordant and the dyestuffs to the fibre is represented exactly as shown under a powerful microscope. A longitudinal view is shown in the specimen A, and a transverse sectional view of the same fibre in C. The letter B in both views represents the core of the fibre, which is free from any chemical application whatever. E indicates the depth to which the staple has been impregnated by the mordant, the first substance applied, and D represents the dyestuff itself. Hence the centre of the fibre is untouched by the coloring matters and is perfectly free from any discoloration. The shaded lines next to the core show the mordanting material, which has permanently fixed itself to the interior of the fibre, and the black lines at the surface the dyestuff, which has glued itself to the mordant, thus rendering it strong and fast. This operation constitutes the popular mordanting process, and the metallic salts or other materials employed in the work

are abbreviated as "mordants," which name has been taken from the Latin word *mordere*, meaning to bite, hold or stick fast.

There are several classes of mordants used in the dyehouse of today and recognized under the following terms: Aluminum mordants, iron mordants, tin mordants, chromium mordants and copper mordants. There are many others of minor importance; in fact, anything that is capable of fixing or gluing the dyestuff to the fibre can properly be called a mordant, and science has discovered a long list of these.

The idea in a recent invention in this line is to make the mordants and the dyestuffs penetrate the fibre deeper than the drawing shows. The presence of air in the centre of cotton and other fibres has,



it is stated, heretofore checked the efforts of the dyer in forcing the dye there, and the contrivance overcomes this difficulty by removing the air. This is done by the use of a strong copper cylinder and a set of pumping instruments. The cylinder stands upright with closed ends, one of which can be opened to admit the fibre to be dyed, after which it is fastened. The dyestuffs are poured in through an opening, on the closing of which the device is ready to commence operations. The set of air-pumps are then started and the air from the inside of the cylinder pumped out, causing a vacuum and leaving the fibres free from air. This obstacle removed, the dye is allowed to enter almost to the very core of the fibre.

Southern Textile Notes.

A REPORT from Dallas, Texas, states that the citizens of that city are negotiating with a syndicate composed of New England and English capitalists to build at Dallas fifteen cotton mills, building three for the next five years. A large amount of the stock will be taken by Dallas capitalists.

THE Blue Grass Cordage Co., of Georgetown, Ky., manufacturing hemp, binder twine, cords, etc., has a daily capacity of 6000 pounds. Lately the company has completed a rope drive by which power is transferred from the main shaft of the mill to their rope-walk, 300 feet distant, and which stands at an angle of seventy-five degrees to the main shaft and mill. The rope used was made by the company from Kentucky hemp and the drive was designed and constructed in their own machine shop. The machinery has already been operated and proved successful. The mill is now largely engaged in the manufacture of sash and bell cords, marlines, spun yarns, oakum and packings. H. Stedman is secretary of the company.

A COMPANY is to be organized immediately for the purpose of establishing a line and twine walk at Elizabethton, Tenn. It will be known as the Tennessee Line & Twine Co., and will have a capital stock of about \$18,000 and the following officers: George N. Burdick, of Potter's Hill, R. I., president; Dr. A. B. Briggs, of Asheville, R. I., vice-president, and Frank Hill, of the same city, secretary and treasurer. The company will build a walk 500 feet long and twenty feet wide and a head-house sixty by forty feet, and the buildings

will be constructed with a view to an early enlargement.

THE stockholders of the Cannon Manufacturing Co., of Concord, N. C., held their annual meeting last week and the president's report was read. The mills manufactured during the past year 3,444,920 yards of sheeting, and a total amount of \$102,445.27 was paid for cotton. The company's business affairs are in a flourishing condition, and a semi-annual dividend of 5 per cent. was declared. The directors are D. F. Cannon, W. H. Lilly, W. R. Odell, P. B. Fetzer and J. W. Wadsworth; J. M. Odell, president; J. W. Cannon, secretary and treasurer.

NEW YORK parties recently endeavored to purchase \$200,000 worth of the stock of the Jno. P. King Manufacturing Co., of Augusta, Ga., but found it impossible to secure more than 200 shares, which they declined to take.

THE new cotton manufacturing company organized in Mooresville, N. C., last month will be known as the Mooresville Cotton Mills Co. A tract of land containing thirty acres has been purchased as a site for the plant and work on the building will commence very soon. The directors of the company are: J. E. Sherrill, D. C. Brawley, J. Lee Harris, M. F. Nesbit, S. C. Rankin, J. P. Mills and S. A. Lowrance. Mr. Sherrill is president, and Mr. Goodman, secretary and treasurer.

THE new West Huntsville (Ala.) Cotton Mills are about completed and will commence operations at once.

A COTTON factory is on the tapis for Rutherfordton, N. C., and a company has already been organized. The concern will be known as the Rutherford Cotton Factory. J. C. Cowan has been chosen president; W. J. Harlin, vice-president, and M. Levi, secretary and treasurer. The outfit of machinery will at once be arranged for.

THE annual meeting of the stockholders of the Langley (S. C.) Manufacturing Co. was held on the 15th inst., but only routine business transacted. The past year was voted as unusually prosperous, and President Thos. Barrett, Jr., was highly complimented. The work of doubling the mill's capacity is now being rapidly pushed and will be completed in the spring. The old directors were re-elected as follows: W. H. Langley, of Brooklyn; Frank E. Fleming, of Augusta; W. H. Kitchens, of New York, and T. W. Alexander, of Augusta.

IT is rumored that an effort will be made by a Mr. Lawrence, of Menlo, Ga., to interest parties in taking hold of the uncompleted cotton factory at Attalla, Ala., which was started by the Attalla Land Co. A proposition has been made to donate the work already done, thirty acres of ground around the site and \$10,000 in other property. This proposition is now being considered.

THE proposed mill at Attalla, Ala., will, if built, be known as the Chewalla Cotton Mills. On the 16th inst. the stockholders held a meeting and elected J. P. Fay, president, and E. B. Young, vice-president, and a committee composed of R. A. Balloue, C. A. Locke and J. E. O'Brien was appointed to obtain estimates and full particulars on buildings and machinery. The concern proposes to spin cotton yarns, and \$50,000 of its capital has been subscribed.

THE Edisto Cotton Mills, a concern which has recently obtained charter at Charleston, S. C., has opened subscription books at Orangeburg in the office of B. H. Moss. The proposed capital is \$100,000, and this will doubtless be easily secured and the mill become assured.

ENDEAVORS are being made at Dalton, Ga., for the organization of a stock company to build a cotton factory. As soon as a sufficient amount of stock is subscribed

the company will meet and organize and then arrange for the purchase of a complete cotton manufacturing outfit. J. C. Norton is the prime mover in this affair, and can furnish information to interested parties.

THE new Enterprise (Miss.) Knitting Mills commenced operations on the 17th inst., manufacturing hosiery. Jno. Kamper is president of the company.

PLANS for the new woolen mills to be built by the Chatham Manufacturing Co., of Elkin, N. C., have been completed, and the plant will be completed during the year. The company will use the old mill building for the manufacture of pants.

THE Columbia (S. C.) Mills Co., which proposes building a \$500,000 plant on the Columbia Canal, has been offered a free site for its factory by the Columbia Granite, Construction & Manufacturing Co.

MR. THOMAS B. FITZGERALD, president of the Riverside Cotton Mills, of Danville, Va., has made the city a proposition for the purchase of a tract of land in North Danville for the purpose of using it for the further enlargement of the mills.

MR. LOUIS HAMBURGER, of the Hamburger Cotton Mills, of Columbus, Ga., has purchased the Paragon Manufacturing Co.'s plant in the latter city for \$53,000. The two mills will be consolidated for operation.

Convention of the Georgia Agricultural Society.

On Thursday, February 15, the Georgia Agricultural Society convened in Augusta with about 250 members present, besides many visitors. Among the latter were Governor Northen, Gen. P. M. B. Young, Prof. H. C. White, of the State University; George Payne, State chemist, and Col. A. P. Butler, ex-commissioner of agriculture of South Carolina. Among the members were President J. O. Waddell, Samuel Hope, secretary; J. H. Black, of Americus; R. Leonard, of Talbotton; Hamilton Young, of Rome; R. E. Park, of Macon; A. T. Putnam, of Brunswick; C. J. Haden, of Atlanta; Col. I. W. Avery, of Atlanta, and Col. T. W. Stovall, of the same place. The morning session was occupied in addresses by the mayor of Augusta and others. In the afternoon papers were read by Col. H. W. Newman, of Canton; Dr. W. P. Burroughs, Col. R. J. Redding and C. J. Haden. Following each paper there was an interesting discussion.

On Friday the first question discussed was the necessity for reducing the cotton acreage, and when finally put before the meeting in the form of a resolution it was unanimously agreed that those present would plant less than during last season and would use their influence to induce others to do the same. A number of reports were then read by various committees, and following them was a valuable and instructive paper on village farming, read by Prof. H. C. White. At its conclusion there was an interesting discussion in which many prominent members took part. Col. I. W. Avery then read a paper on direct trade, a subject on which he is eminently fitted to speak. After the discussion which followed it Col. R. J. Redding presented a report on experimental station work. This was followed by the yearly report of Col. R. T. Nesbit, commissioner of agriculture, in which the work of that department for the past twelve months was reviewed. Dr. I. S. Hopkins, president of the Technological Institute of Georgia, then delivered an address on the need of education among farmers. Following this was an address by Governor Northen. After a discussion and the passage of some resolutions the meeting adjourned to partake of a luncheon tendered in the exposition building by the citizens of Augusta. In the evening at eight o'clock the meeting reassembled to consider some reports from committees, and after action upon them adjourned.

COAL AND COKE.

By-Products from the Coking Process.

In a paper giving the results of an investigation of coals for making coke, with reference to the recovery of ammonia and tar, read by J. D. Pennock, of Syracuse, N. Y., at the Montreal meeting of the American Institute of Mining Engineers, the writer says: About a year and a-half ago Mr. Morris, an engineer of the Solvay Process Co., was sent to Belgium and France to study the manufacture of coke in the Semet-Solvay ovens, which were in operation at Havre.

With complete plans of construction and a good understanding of the methods of running the ovens, he returned to Syracuse. Work on twelve Semet-Solvay ovens was immediately begun. These ovens, with plant for crushing and washing coal and the necessary condensers, scrubbers and concentrator for the recovery of by-products, are nearly finished and will soon be in operation.

As the works approached completion it became necessary to determine what coal should be used, and accordingly a chemical investigation of various bituminous coals was made. In all twelve varieties were tried. Disregarding all but the two which were most suitable from composition and coking qualities, the results were as follows:

	III.	IV.
Volatile matter.....	17.73	18.12
Fixed carbon.....	71.92	71.89
Ash.....	10.35	9.99
Sulphur.....	.584	.83
Coke.....	82.27	81.88
Sulphur in coke.....	.58	.73

Sulphur occurs in coal in three forms—with iron as pyrite, FeS_2 ; with carbon as a hydro-carbon, or as a fixed sulphate, usually with calcium, as CaSO_4 . In the above samples the sulphur occurring as pyrite was in No. III 0.12 per cent., and in No. IV 0.09 per cent. The determination of the constituents of the ash is an important part of a coal analysis. In these samples the ash was as follows:

	III.	IV.
Color.....	Gray.	Gray.
Silica.....	60.95	56.31
Alumina.....	35.34	34.80
Ferric oxide.....	1.78	6.56
Lime.....	1.55	2.83
Magnesia.....	0.04	0.05
Sulphuric oxide.....	0.28	0.37

Having selected a coal desirable for quantity of coke, physical qualities, low ash and low sulphur, it remains to select from these one which will give the most ammonia as a by-product. Coals vary in nitrogen from 0.6 per cent. in anthracite to 2 per cent. in some bituminous coals.

The nitrogen was determined by two methods, the soda-lime, with combustion and absorption by one-fifth normal sulphuric acid and titration, and the Kjeldahl method, dissolving the coal in sulphuric acid and mercuric oxide, adding sodium hydrate, yellow sodium sulphide and zinc, and distilling the ammonia into one-fifth normal sulphuric acid, where it is titrated. The latter method appears to give the most concordant results, and by it sample III yielded 1.30 per cent. nitrogen and sample IV 1.31 per cent. To determine how much nitrogen would be recovered by dry distillation of the coal two grammes were heated in a tube in a combustion furnace and the expelled ammonia determined.

	III.	IV.
Per cent. nitrogen in coal.....	1.30	1.31
Per cent. recovered from coal.....	.28	.21
Per cent. of total nitrogen recovered.....	21.00	16.00

During the year 1886 some 2,150,000 tons of bituminous coal were carbonized in the manufacture of illuminating gas in the

United States, yielding 1300 pounds coke per ton of coal. If the ammonia were recovered from all this coal at the average yield of twenty pounds sulphate of ammonia per ton of coal, the production of this salt would have been 21,500 tons.

Probably not more than 50 per cent. of the gas works consuming the above quantity of coal are supplied with the necessary apparatus for obtaining the ammonia from the gas in a sufficiently concentrated liquor (1½ to 2 per cent.) to pay for redistillation.

Two gas works in New York State use a coal of the following composition:

	Works A.	Works B.	Cannel coal.
Moisture.....	.28	.88	.76
Volatile matter.....	39.09	38.66	54.20
Fixed carbon.....	57.33	54.18	38.30
Ash.....	3.30	6.28	6.74
Coke.....	60.33	60.46	45.04
Nitrogen.....	1.37	1.46	1.34
Sulphur.....	.72	1.24	.81

Each works used 1 per cent. of cannel coal. The by-products recovered during 1891 were as follows:

	A.	B.
Coal carbonized, in tons.....	13,542	12,520
Ammonium sulphate recovered, pounds.....	280,252	240,496
Ammonium sulphate per ton coal, pounds.....	20.72	19.20
Coal tar recovered, gallons.....	187,567	168,570
Coal tar recovered per ton coal, gallons.....	14	13.4

It was early known that in our method of making coke in the beehive oven there was a waste of the valuable by-products, tar and ammonia. Thus far gas works have been able to supply the wants of this country as regards ammonia, but as the works for making illuminating gas adopt the water-gas plan and as the agricultural demand for nitrogen in the form of ammonia increases, we shall be forced to reconstruct our ovens to save the ammonia. That time is upon us, and it will not be long before the greater part of our ammonia will be a by-product of the coke ovens instead of the gas retort.

England's gas works do not begin to supply the demand for ammonia and a soluble form of nitrogen for agricultural purposes. She imports annually thousands of tons of sodium nitrate from Chili to furnish the nitrogen for her depleted soil. B. H. Thwaite says 120,000 tons of nitrogen are annually absorbed in the vegetable growth of England. To compensate for this loss it is necessary to employ 573,000 tons of ammonium sulphate, or purchase from Chili 734,000 tons of sodium nitrate at a cost of \$35,000,000. One-third of the fuel consumed, if treated rationally, would supply this amount of ammonium sulphate, and England would be independent of foreign supply.

In 1890 the United States converted 16,100,000 tons of coal into coke. If this were carbonized in Semet-Solvay ovens the ammonia recovered, at thirteen pounds ammonium sulphate per ton of coal, would be 103,150 tons.

Of the different types of ovens there are two, the meiler and beehive, which do not use by-products. The Appolt and Coppée use tar vapors and gases for heating the retorts. The Jameson oven admits air and allows partial combustion of the coal while collecting the by-products, and the Knab, Pernolet, Simon-Carvés, Otto-Hoffman and Semet-Solvay are closed ovens utilizing the gases as fuel and collecting all by-products. The last three all belong to the same general type and are the outcome of Knab's oven, an early attempt in this direction which was not successful because sufficiently high temperatures could not be obtained. These three ovens each have regenerators for heating the air before it unites with the gas, and a high temperature may be maintained.

The Semet-Solvay oven is thirty feet long, fourteen inches wide on the side of the steam-ram and fifteen inches on the

other side, the height being five feet eight inches. The advantageous feature of the Semet-Solvay oven is that the wall of the oven is composed of fire-clay retorts, three in number, jointed one above the other by tongue and groove. Through these retorts or flues passes the burning gas which through the three 3-inch walls produces an intense heat in the oven. By means of two air-tight doors at each end and these jointed walls the oven is kept perfectly airtight, hence a high yield of coke is obtained. This is partly due to the narrowness of the oven, which has ten inches less width than the Otto-Hoffman oven (thirty feet long, two feet wide and five feet three inches high).

Coke from these ovens differs from that produced in the beehive form in that it lacks the brightness and columnar structure of the latter and is more in the form of large blocks, but it has great strength and density and is less liable to break in filling or in transit. Watson Smith accounts for the greater strength and density of this coke in that a larger charge of coal is used (four and a-half tons) and is piled up to a considerable height (five or six feet). The semi-fused fuel is maintained in a soft condition to a late stage of the process by the high temperature of the oven and becomes pressed by its own weight, and sinking down gives on cooling a hard, solid mass. Furthermore, it is likely that during the escape of the tar vapors from the decomposing mass a portion of them must suffer almost complete coking, the pores of the mass becoming thus filled up. That the prejudice against closed-oven coke has been overcome in Germany and France is shown by the great increase in the number of ovens constructed in the past few years. The records show that in 1884 there were but forty Otto-Hoffman ovens in Germany, and in 1892 the number had been increased to 1205. There are at present 205 ovens of the Semet-Solvay type in operation and 140 in the process of erection.

At Havre, France, 100 Semet-Solvay ovens are in successful operation. The charge of coal is four tons per oven, which is drawn every twenty-four hours. The coal used contains 16 to 17 per cent. volatile matter, and in practice a yield of 81 per cent. coke is obtained. The by-product from this coal amounts to fourteen pounds sulphate of ammonia and thirty-one pounds tar per ton coal. At the Brunner-Mond Soda Works at Norwich, England, where a better coal is used, twenty-five to twenty-seven pounds ammonium sulphate and about eighty-two to eighty-four pounds tar are obtained per ton coal. The benzene by-product is another which should be considered. The best results so far have shown a yield of seventeen pounds from the oven gas per ton of coal. Theoretically 25.7 pounds are present, and the amount recovered is about 69 per cent. of the total.

The Shenadoah Valley's Anthracite Coal.

A vein of anthracite coal said to be equal in quality to that of the famous coal fields of Pennsylvania has been discovered on the Hollingsworth timber tract in Rockingham county, Va. This property embraces nearly 50,000 acres of land, and was recently purchased by General Negley, of New York, representing prominent capitalists. The vein discovered is near the Valley branch of the Baltimore & Ohio Railroad. General Negley has arranged with a New York concern to make thorough explorations by sinking holes to a depth of 500 feet. The necessary outfit of machinery is now being placed, and operations will commence soon. This is a valuable find, and if the coal is found to be plentiful will mean much good for the State.

THE Peak Creek Coal & Coke Co. has commenced prospecting for coal on its property near Pulaski, Va.

A Natural Smokeless Coal.

ANNISTON, ALA., February 15.

Editor Manufacturers' Record:

I have noticed the article in your paper of February 10, 1893, on "Smokeless Coal." It may be of interest to your readers to know that nature has done in the Pocahontas-Flat-Top coal field what is desired by the projectors of the process described by you. The percentage of volatile matter in this coal is 18.8 per cent., very little above the figures obtained in this partial coking process. The Pocahontas coal can well be called a smokeless coal, as the small amount of black smoke from the coke ovens in that field, compared to other regions, will fully testify. Below is an analysis of Flat-Top coal:

Volatile matter.....	18.812
Carbon.....	72.708
Ash.....	5.191
Water.....	1.011
Sulphur.....	.787

G. S. PATTERSON.

Coal and Coke Notes.

THE Gayton Coal Co., Ware B. Gay, president, is about to commence mining coal in Chesterfield county, Va.

THE stockholders of the Maryland Coal Co. met in New York February 7th and re-elected the old board of directors. The annual report submitted shows a net profit of \$96,948, out of which was paid \$94,500 in dividends; balance carried to profit and loss \$2448. Shipments during the year were 286,213 tons, against 406,464 tons in 1891, a decrease of 120,251, caused by inability of the Pennsylvania Railroad Co. to transport the coal. The company paid off \$20,000 of its first mortgage bonds during the year, leaving total bonded indebtedness now \$100,000.

Southern Iron Notes.

THE Castle Rock Iron Co., to which a charter has been granted lately, will at once develop an extensive iron-ore property near Roanoke, Va., which promises a very large production of high-grade ore. W. Welch is president, and G. W. Ramsey, secretary of the concern, and its capital stock is placed at \$30,000.

THE Southern Iron Co., of Nashville, Tenn., has secured control of the old Cumberland furnace in Dickson county, formerly owned by the Drouillard Iron Co., and will put it in blast within the next few weeks. This furnace is one of the oldest charcoal plants in the State, having been built in 1825. Since that time a number of improvements have been added to the plant, among them a hot-blast stove, and its capacity increased to 4000 tons per annum. For some years the plant has been idle, owing to the expense of transporting the iron to the railroad, but the recent completion of the Clarksville Mineral branch of the Louisville & Nashville Railroad, running from Clarksville to Dickson, passing through Van Leer and connecting with the furnace by a 6-mile spur from this point, gives the needed facilities for the transportation of iron, ore and charcoal.

SUBSCRIPTIONS to the stock of the Statesville (N. C.) Cotton Mill are being rapidly received, and the ultimate erection of a first-class factory is now practically assured. The capital stock proposed is \$100,000, and only \$17,000 of this remains unsubscribed. T. D. Miller is secretary and treasurer. At a meeting held last week the board of directors of the mill company accepted an offer made by the Statesville Development Co. for a site on which to build.

WORK on the buildings for the new Camden (S. C.) Cotton Mills is progressing very fast, and they will be completed in a month or so. H. G. Garrison, president of the company, is now in the North negotiating for the outfit of machinery.

MECHANICAL.

New Mechanical Tools.

The mechanical tools, viz., universal surface gages, improved speed indicator and patent stair gage, illustrated herewith, are new devices just being put on the

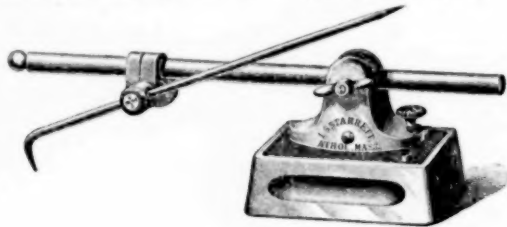


FIG. 1.

market by L. S. Starrett, of Athol, Mass., and the following descriptive matter will interest hardware dealers and skilled mechanics. The universal surface gage shown in Fig. 1 has the following improved features, viz., a joint at the base which allows the spindle and scriber to be moved back

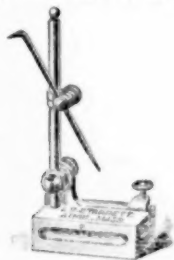


FIG. 2.

and forth and placed in any position from upright to horizontal, to reach over, back of and under work, and by inclining the spindle over the work its scope for long reach is increased. The fine adjustment is obtained by the knurled screw in the rocking bracket at the base acting against

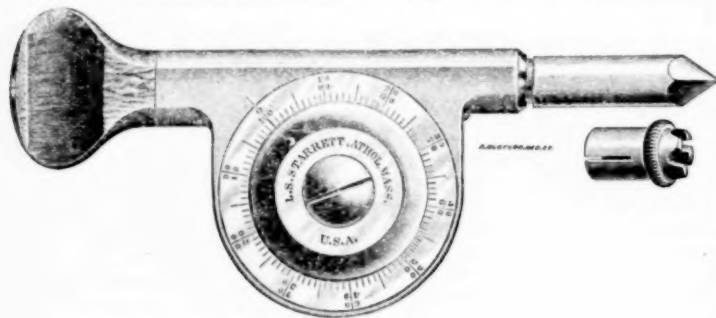


FIG. 3.

a stiff spring under the opposite end, while the joint above with the spindle may be set and rigidly held in any position desired. Two pins through the base, frictionally held, may be pushed down by slight pressure to form a bearing to work from the edge of or in the slots of the planer bed for lining up work, while the weight of the gage against the bed with a little pressure is sufficient to push them back. Grooves around these pins, against which a pointed spring plunger presses, insure their being held in place either up or down. Concave depressions milled in the sides of the base make it convenient for thumb and finger to grasp. This gage is furnished with an improved sleeve to rigidly hold the scriber. It is made in two sizes, with spindles of extra length to order.

In Fig. 2 is shown a gage adapted for light work, made on the principle of the one described above. The base is steel, neatly finished and case hardened, with depressions milled in the sides for the thumb and finger to grasp. The top side of it is slotted, and the rocking bracket is pivoted in the same. There is a stiff spring under one end of the bracket and a knurled adjusting screw in the other; the spindle jointed to this may be set and rigidly held

in any position from vertical to horizontal, and the scriber placed in position to be used below its base for depth gage or (with bent end down) a scribing gage. It weighs eleven ounces and is five inches high, and, folding the spindle (which is four inches long) horizontally over the base, it may be packed in $1\frac{3}{4} \times 1\frac{1}{2} \times 4$ -inch space in the tool chest.

Fig. 3 is a view of the improved speed indicator. The working parts are enclosed like a watch, and said to be as well made. The graduations show every revolution, and with two rows of figures read both right and left as the shaft may run. An auxiliary split cap is made to slip over the pointed



FIG. 4.

spindle to adapt it to use on a centre or pointed shaft. The revolving dial is frictionally attached to the central stud. On the index line is an oval-headed pin, by a slight pressure against which the dial may be instantly adjusted to the o line on the graduated plate. While looking on the

watch each hundred revolutions may be counted by allowing the oval-headed pin on the revolving disc to pass under the thumb as the instrument is pressed to its work.

The device is nickel plated, and has either an ebony or rosewood handle, so that

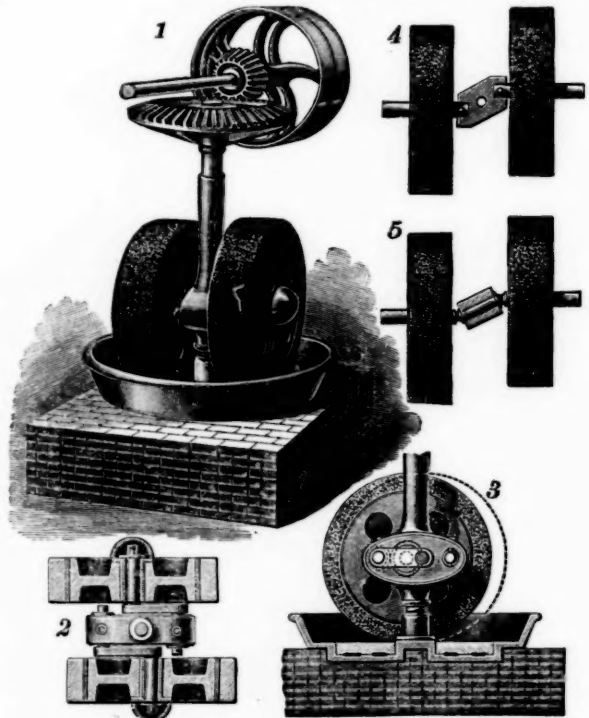
it will not heat the fingers when run at high speed.

The patent stair gage is shown in Fig. 4. This gage is to be used in connection with any carpenter's steel square, and can be adjusted to any pitch or angle desired.

For cutting in rafters, braces, stairs, etc., it will, it is claimed, soon pay its cost and prove one of the most valuable tools in a carpenter's kit. It is made in the shape of a steel angle $\frac{3}{8} \times \frac{3}{8}$, $\frac{1}{8}$ -inch thick, ground straight and nickle plated.

Improved Means of Running Millstones

In the accompanying cuts are shown improvements in mill machinery recently patented by Henry Mantey, master mechanic of the Ferrocarril Mexicano, residing at Orizava, Mexico. The claim advanced for his invention is that it counteracts the tendency of the millstones on Chilean or vertical mills to press outward upon their bearings under the influence of the centrifugal force, and thereby greatly lessens the wear of the axles and their bearings.



MANTEY'S EDGE RUNNER OR VERTICAL MILLSTONE.

The millstones are mounted on axles inclined forward with relation to the radius of revolution, and are not arranged radially. This arrangement is designed so that the resistance of the working faces of the millstones (which is in a direction at right angles to the radius of revolution) will give them an inward tendency on their axles and counteract the outward tendency from the centrifugal force.

In the views presented Fig. 1 is a view in perspective, Fig. 2 shows a top section over the millstone axles and Fig. 3 a vertical section. A cross-beam is mounted at shaft is journaled upon a central step of its centre on the vertical operating shaft, and at opposite ends of the beam are journal boxes in which the inner ends of crank

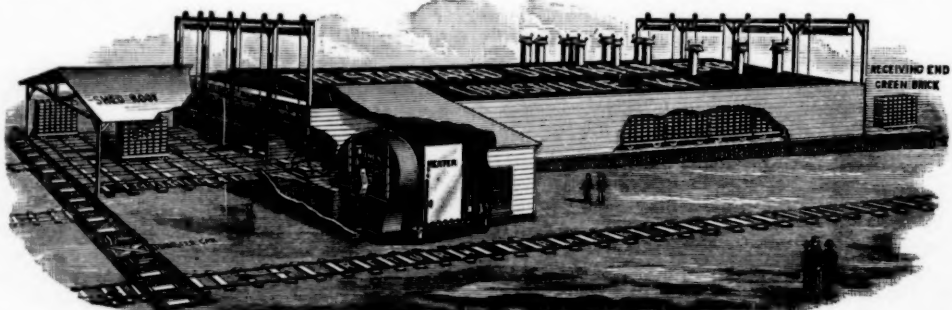
the shaft is revolved by a beveled cog gear keyed to the main power shaft. The millstones rise and fall automatically to suit the varying conditions of the ore, grain or other substance being ground, but are not, it is said, subjected to the usual centrifugal strain, because the axle ends are forwardly inclined with reference to the radius of revolution, as shown by the dotted lines in Fig. 3. In Figs. 4 and 5 are shown modifications of the improvement, the axles of the millstones being joined together in each case by a casting secured at its centre to the operating shaft.

As the centrifugal force varies with the rate of speed at which the mill is run, the adjustment of the inclination of the axles to the tangent of the circle of revolution to correspond with the rate of speed becomes a matter of considerable importance, and the

providing of means to accomplish this result affords the subject of another patent issued to the same inventor. Several different forms of adjustable crank axles and journal boxes are provided for, including means for applying the improvements to a mill employing four millstones, in all of which the position of the axles can, it is stated, be adjusted to such nicety that they will exactly counteract the centrifugal force at whatever speed it is desired to run the mill.

The Standard Forced-Draft Brick Drier.

As unanimously conceded by the clay-workers of this country at the last annual convention of the National Brick Manu-



THE STANDARD FORCED-DRAFT BRICK DRIER.

facturers' Association, held the last week of January in Louisville, Ky., the manufacture of all clay products has now reached that period where it requires a broad intelligence of the clay in general, scientific methods of treating the same, and especi-

ally, the use of the latest scientific methods of treating the same, and especi-

ally efficient and scientific appliances to effect the best results. In no other department of the industry was the recognition of this fact better realized than in the manufacture of the drier, which ranks in importance with the press and kiln, for, as remarked in the convention by Mr. D. G. Rhoads, of Omaha, Neb., "unless the brick are well dried they cannot be well burned."

Now, with a complete cognizance of what in this enlightened day is expected of a drier, the Standard offers itself and reputation for the criticism and patronage of all. The principle of operation is probably the most successful one used, viz., the forced hot draft generated and propelled by a heater and fan respectively. The prime reason why it is successful is that it is simply a perfection of nature's own principles, and is therefore practical and scientific.

Again, it admits of perfect regulation and is under constant control, which features are absolutely indispensable for the successful drying of all clays. It is evident to all that the means and their proportions which will dry one kind of clay will in all probability utterly fail when applied to another. It must, therefore, always be under command, and at any moment yield the manufacturer any proportion of drying elements the nature of his clay may demand.

While the forced-draft or blower system is extensively used, it cannot of itself be successful except in occasional instances, and when expected to dry the soft and delicate mud clay, or nine-tenths of the average stiff clays, it proves a great mistake. This is solely due to the inability to control the hot-air currents, which on entering the tunnels of an ordinary drier immediately seek the highest plane and rise to the top. If permitted to continue through the passage thus, and in the ordinary drier there is no remedy for it, the upper tiers of the car will undergo a temperature almost twice the degree prevailing at the floor line. Plainly, none but the coarsest and least refractory clays can bear this inequality of treatment.

To obviate these difficulties the Standard Dry-Kiln Co., of Louisville, Ky., introduced the patent floor-pipe system shown in the accompanying illustration. The system consists of a series of pipes arranged longitudinally through the tunnel above the floor and directly under the cars drying. This being supplied with steam, the atmosphere at the lower tiers and floor line is heated to any desired degree, and the air currents entering the tunnel from the heater-room and coming in contact with this heated atmosphere, combine, equalize and pass through the room, drying the product evenly, thoroughly and without the slightest injury.

The great success that accompanied the Standard drier this last year is testimony as to its merits.

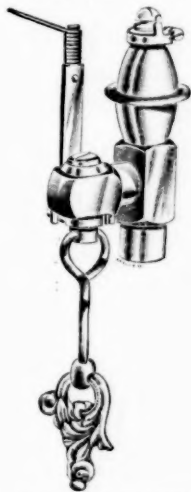
During the convention at Louisville a great majority of the delegates had occasion to visit a Standard drier, 70,000 daily capacity, just erected at Mt. Cook, Neist's yard, and pronounced it "the most satisfactory drier they had ever seen."

RECENT advices state that the Tehuantepec Railroad across the isthmus is nearly completed and within three months will be in operation. The road passes from Coatzacoalcos through a very rich portion of the country, terminating at Salina Cruz, the total length being about 250 miles. It is reported that C. P. Huntington will be interested in its operations.

The values of Florida lands are gradually on the increase. It is noted that in some sections land has advanced from \$1.25 and \$2.20 to \$5.00 and \$10.00 per acre, and the feeling prevails that this upward tendency will continue.

Improved Iona Hand-Lighting Burner.

We illustrate herewith a new hand-lighting burner, the Iona, which is an improvement over the one recently noticed in our columns. In this burner the stems are flexible, consequently cannot strain the most delicate fixtures, and as stems are also detachable, the burner is easily



IMPROVED IONA HAND-LIGHTING BURNER.

attached to fixtures. Any standard shade holder can be used with this burner, and there is no complicated mechanism to get out of order. The valves are ground by hand, and every care taken in manufacturing to insure a perfect working and absolutely safe burner. It is being placed on the market by the Redding Electric Co., 41 Federal street, Boston.

Works of the Grand Rapids Refrigerator Co.

Among the large manufacturing establishments of Grand Rapids, Mich., one of the most noteworthy instances of a modernly-equipped plant is the works of the Grand Rapids Refrigerator Co. This company commenced operations on a small scale about seven years ago, and in the interval has broadened out into one of the

old factory and is a seven-story and basement structure 66x126 feet of Amherst bluestone, with pressed brick trimmings and iron columns. It is provided with the Neracher automatic sprinklers for fire protection and the floors are lined with asbestos. On the first floor are the offices of the company, the shipping-room and a few cut-off saws near the dry-kilns in the rear; the second floor is the sample-room; the third floor is an extension of the cabinet and metal-room cut through from the old factory; the fourth floor is an extension of the finishing-room; the fifth and sixth floors are at present used for storage; the seventh floor contains the bronze foundry and polishing works for the manufacture of trimmings.

This enlargement gives the company a factory 132x126 feet. The arrangement of the plant is such as to economize time and permit the production of the highest grades of workmanship. There are five large dry-kilns of the Noyes patent which receive the green lumber and turn it out within twenty-four hours properly dried and ready for use. Shipping facilities are amply provided by railroad switches to the factory.

The employees of the company number not less than 150 the year round and are selected with a view to their peculiar fitness for the work performed. In consequence of this the company's product has achieved substantial recognition, and is noted for beauty of finish combined with excellent workmanship. The walls of the refrigerators are filled with charcoal and mineral wool, and each one is thoroughly tested before being placed on the market.

Savannah's Great Commercial Banquet

By Col. E. W. Avery.

The first annual banquet of the Savannah Board of Trade on the 8th of this month was an unusually significant and important event, blending with its ordinary festive features a broad scope of commercial meaning and effects of public moment.

Savannah has recently leaped into national and a prospective international im-

portance, in connection with the unusual appropriation of \$3,300,000 to give her harbor a depth of water that will accommodate the trade to which her position and relations to the other parts of America and to foreign countries entitle her.

Capt. D. G. Purse as president of the body, whose achievements for the public have been remarkable, and whose reputation was a guarantee that something vital and impressive would be done. Captain Purse's career has been full of public benefactions, marked by signal ability, masterly execution and large and far-reaching usefulness. He was the author of the introduction of the artesian well in Savannah and its environments, which has not only given to the city an absolutely perfect drinking water equal to any demand for all time, but has revolutionized the agriculture of that section. He introduced the electric light into the city, another revolution in public illumination. He built the Tybee Railroad, which brought into use Tybee island as one of the finest ocean watering places on the Atlantic coast. He, as city alderman, funded the city debt at a lower rate of interest in a period of financial depression and impaired city credit, and put her money affairs on a solid basis. He conducted the movement for getting the government to give the millions of dollars for deep water, and carried it through with unparalleled management and complete success against what seemed insuperable obstacles and certain failure. The handsome new Board of Trade building was his plan, and he has crowned this marvelous series of achievements by a banquet that has been an event in festive magnificence, and has interested in the city controlling minds all over the continent and to some extent in another continent.

Hundred of leaders in other States and countries were invited and responded in sympathetic and practical sentiments. The great banquet was a co-ordinate aid to deep water, and kept Savannah on the line of growth, of reputation and solid increase of municipal prestige and commercial importance, the object of President Purse.

All the appointments of the dinner were perfect. Delmonico could not have outdone the choice elegance and variety of the menu and the completeness of the service. The wines were rare and varied. There were many rich and suggestive novelties in the decorations and details. A fitting and significant emblem was the steamship made of flowers, in token of the great matter of direct trade, which has so engrossed the country for months, which has made such swift progress to consummation, and which is so full of good for Savannah and the natural sequel of her deep water.

The speaking was able, eloquent and delightful. The speeches were gems of sentiment and oratory. President Purse opened the talking with a rare greeting; Mr. Davies, of New York, responded to the toast of the "United States" in national words; President Clay, of the Georgia senate, made a charming speech about Georgia; President Purse paid a tribute to Mr. Whitney in his bereavement; ex-Senator Pope Barrow made one of the hits of the evening, full of humor, and on the toast "Commerce," telling some silver sense; Major Hanson talked virilely on our industries; the letter of Col. H. B. Crosby on direct trade, the engrossing theme of the day, was a masterpiece and pregnant with point; Judge Speer, of the United States Court, made one of his eloquent, ever eloquent, speeches on the "Judiciary," striking boldly for certain reforms, long needed, and Col. Gunby Jordan ended the regular toasts with some choice sentiment to the toast "Woman." Mr. Du Bignon, that rising young Georgian, was drawn out and made an eloquent response about railroads, whose great representatives, Mr. Plant and Mr. Flagler, were present.

Mr. Young read a host of letters from eminent men, starting with President Cleveland. The banquet was held in the fine dining-room of the elegant De Soto Hotel.



WORKS OF THE GRAND RAPIDS REFRIGERATOR CO.

largest refrigerator manufacturers in the United States. The growth of its business has been promptly met by a corresponding increase in facilities, and the company has made a number of extensions to its plant to keep pace with the requirements of its trade.

During 1892 a large addition was erected which will enable the company to double its capacity and greatly enlarge its line of designs. This new building adjoins the

portance, in connection with the unusual appropriation of \$3,300,000 to give her harbor a depth of water that will accommodate the trade to which her position and relations to the other parts of America and to foreign countries entitle her.

The Board of Trade has just finished its magnificent new building, and in the line of that dignity got up this banquet. The board was fortunate in having at its head to plan and execute this trade festivity,

LUMBER.

[A complete record of new mills and building operations in the South will be found in the Construction Department, on page 78.]

Lumber Directory.

Readers of the MANUFACTURERS' RECORD who may be in the market for lumber of any description are recommended to the directory of Southern lumber manufacturers and dealers which appears among the advertising pages.

Annual Meeting of Cypress Lumbermen in New Orleans.

The annual meeting of the cypress lumbermen of Louisiana, Mississippi, Arkansas and Texas took place on Monday last in the office of the Gulf Lumber Co. in the Cotton Exchange, New Orleans. The Southern Cypress Lumber Association is the most active of any of the Southern lumber associations, and this date was chosen for the meeting so that the members might combine business with pleasure. The attendance was large and representative, and embraced the leading cypress men of the States mentioned. The meeting was called to order by Frank B. Williams, of Patterson, La., president of the association. The minutes of the previous meeting were read by W. B. Brazelton, secretary, and unanimously adopted. Several important matters affecting the interests of the cypress and shingle trade were discussed. Secretary Brazelton, in his report, said that a fair amount of work had been accomplished by the association, and had established grades which were being recognized by exchanges. The product of lumber and shingles, from data obtainable, has increased, and the demand has kept pace with this increase. Prices for the product have been fair, but the returns have not been what they ought to be. In Louisiana the cost of manufacturing shingles is almost equal to the selling price, while in Arkansas the cost of manufacture is considerably cheaper than in this State. It is recommended that there ought to be standard weights established and maintained, and that some steps ought to be taken to correct certain discriminations in railroad rates in favor of pine and against cypress to Texas points. The report of the secretary was very interesting, and was received unanimously. There being no unfinished business, the association proceeded to the election of officers for the ensuing year. Messrs. McGiven, Brownell, Marsh, Bowie and Van Etten were appointed a committee to select a board of directors. They reported in favor of the following board, which was elected: F. B. Williams, president, Plaquemine, La.; G. H. Van Etten, vice-president, Arkansas; William Curphy, Mississippi; W. B. Boyington, Arkansas; H. J. Luther, Louisiana; N. P. Murray, New Orleans; W. B. Brazelton, Texas, and James Rathbone, Louisiana. S. D. Carpenter, Plaquemine, La., moved the appointment of a committee of three to formulate rules for the purchase of timber, the committee to represent the sections where the lumber is bought. No action was taken on the suggestion of Mr. Carpenter. G. H. Van Etten then moved the appointment of a committee to determine upon uniform grades of cypress shingles. The chair named Messrs. Van Etten, Hubbard, Turner, Nelson, Brunell and Wilbert. After some time spent in consultation the committee made the following report, which was adopted: There shall be four grades of shingles with the following specifications known as:

Best—A dimension shingle, each width separately bunched, sixteen inches long, five butts to measure two inches, all heart, free from shakes and other defects, and no knots admitted within eight inches from heart end.

Seconds—A dimension shingle, each width separately bunched, sixteen inches long, five butts to measure two inches,

admitting light knots and sap, free from shakes and other defects, no knots admitted within eight inches from heart end.

Ex Ax—Same as "seconds," except random width, and may admit shingles fourteen inches long.

Clipper—Any shingles which are sound five inches from the butts, pin worm-holes excepted, and may be two and a-half inches or up in width.

The following new grading for dressed flooring and dressed lumber was also adopted:

1—Clear heart must be free from all sap or knots and without blemish.

A—Must have heart face and may have one inch of sap on thin edge, and may contain one small knot, and may have bright sap one-fourth of its width for six inches from one end or a check in one end, and not exceeding six inches in length.

B—May have one-third of face bright sap if otherwise clear, or in lieu of one-third sap may contain two small knots, and may have checks in one end not over nine inches long.

C—May be all bright sap or may have one to five knots, the whole not aggregating over three inches, or knots or other defects that can be removed in two cuts with waste not exceeding twelve inches in length, or three pin worm-holes, or may have check or split at one end not exceeding twelve inches in length.

D—May have stain sap, also pin worm-holes, unsound knots, shake or other defects that will not impair its usefulness to exceed one-third.

That considering the various stages of dryness in which lumber, laths and shingles are shipped, the following average weights be adopted: Three-eighths laths, 600 pounds; five-eighths laths, 900 pounds; shingles of all grades, 300 pounds; rough lumber of all grades two inches thick and under, 3000 pounds; seven-eighths flooring and ceiling, 2150 pounds; rough plank, two and one-half inches, 3500 pounds; five-eighths ceiling, 1500 pounds; three-eighths ceiling, 3000 pounds, and 1/2-inch bored siding, 1000 pounds. The secretary's report showed returns from Arkansas from four shingle mills 14,750,000 bests and 12,250,000 seconds; Star A Star, 3,000,000; clippers, 2,000,000, and lumber (one mill), 1,500,000.

Louisiana—Returns from shingle mills, 15,000,000 bests, 10,000,000 seconds; Star A Star, 6,000,000; clippers, 2,500,000, together with 40,000,000 feet of lumber.

The convention was called to order on Tuesday at 10 A. M., when the president announced that the order of the day would be the consideration of what mill men were getting for railroad bills. The discussion of this subject was entered into with considerable spirit, but full of harmony, when Mr. Hubbard announced it as out of order, and suggested that the discussion of prices be dropped till after adjournment. Mr. Turner moved that the secretary be instructed to send printed price-lists of the association gradings on lumber and shingles to all cypress manufacturers and lumber exchanges in the United States. Adopted. Mr. Brozelton offered the following: That a standing committee of three be appointed on insurance to try and arrange for better rates, the committee to consist of Benton, Wright and Williams. Adopted. The convention then adjourned until the first Monday preceding Ash Wednesday in 1894.

The following firms were represented: G. H. Van Etten, Little Rock, Ark.; Whitecastle Lumber & Shingle Co., Whitecastle, La.; Luther & Moore, Luther, La.; Burton Lumber Co., Baton Rouge, La.; F. B. Williams, Patterson, La.; Louisiana Cypress Co., New Orleans, La.; N. B. Trellue & Co., Patterson, La.; Morehouse Lumber Co., Gallion, La.; C. S. Burt, New Orleans, La.; Ruddock Cypress Co., Ruddock, La.; L. Miller Shingle Co., Orange, Texas; Highland

Land & Lumber Co., Humphreys, Ark.; T. O. Wilson Co., Tailor, Ark.; E. P. Ladd, Sherville, Ark.; William Curphy, Vicksburg, Miss.; Ouachita Excelsior Saw & Planing Mill Co., Monroe, La.; Cypress Shingle & Lumber Co., Plaquemine, La.; Berwick Lumber Co., Berwick, La.; J. H. Poe Shingle Co., Lake Charles, La.; Milmo, Stokoe & Co., Jeanerette, La.; H. C. Stringfellow, Howard, La., and Julius Levin, Alexandria, La.

To the above association may be attributed the rapid development of cypress as a commercial commodity. Little more than a decade has elapsed since this wood came into prominence, and now the output of all the mills of the country is put down at 1,500,000,000 feet, four-fifths of which was manufactured in Louisiana. Through the efforts of this association cypress has come into use for artistic building and manufacturing purposes, which has caused a brisk demand and enhanced the value of the wood. A large export business is being done in cypress lumber, and cargoes have been shipped to West Indian and Mexican ports with successful results.

Southern Lumber Manufacturers' Association.

The Southern Lumber Manufacturers' Association met in third annual session in Mobile, Ala., on the 15th inst. President J. B. White called the meeting to order at 10.45 A. M. The roll-call of membership was the first business in order, to which about sixty members responded. After calling the roll the list was referred to the committee on credentials, composed of W. W. Wadsworth, J. B. Nulty and J. H. Hinton. President White stated that in view of the non-arrival of many members the morning session would be devoted to talks "for the good of the order." Mr. J. Bounds, of Hattiesburg, Miss., proposed a plan for a central office for the manufacturers, through which they could sell their lumber at the market price and hold same for sale when necessary. He stated that he had prepared a set of books to illustrate his idea, and hoped to present them at a future meeting. Mr. Bounds thought that the best interests of the lumber manufacturers of today could be better protected in a combine than in any other way, and if a central office was established, the manufacturer could sell his lumber to this office. The discussion of the Bounds scheme was freely discussed by several prominent members and officers of the association, and the subject dropped, to be taken up at another session. The hour of noon having arrived, the association adjourned for lunch. On reassembling in the afternoon Secretary Smith read his annual report, which proved to be a very interesting document, and was received with applause. In reviewing the situation as far as lumber was concerned he said: "Our membership in Mississippi is small, in Alabama smaller, and in Georgia nothing. We need recruits from these States, and we are here today to make the acquaintance of the lumbermen of the Southeast, and urge them to join with those of us who for the past three years have worked for the unifying of the yellow-pine interests. There are certain things which a general organization can do, and which can be accomplished in no other way. First, in the matter of statistics. For two years it has been my duty to collect for your information at stated times the stock on hand and other data. It seems more difficult to get replies, and we stop to ask the reason for this." At this point in his report Mr. Smith made a strong appeal to the members to unite in giving correct information promptly, and pointed out the magnitude of the industry, and the necessity of a systematic and complete report of the output and stock on hand. On the subject of grades and manufactures he thought they should be as uniform as possible, and need careful attention at

all times. He then referred to the subject of stocks, and dwelt upon the necessity for all the information they could get on stocks in hands of manufacturers. Mr. Smith then presented the following table of statistics, showing the cut of lumber from each State for twelve months of 1892, shipments for the same period, and stock on hand January 1, 1893:

STATISTICS FROM NINETY-SIX MILLS.

State.	No.	Cut.	Shipm'ts.	On hand.
Georgia.....	10	70,926,575	62,086,575	5,726,000
Missouri.....	6	26,443,753	27,920,000	5,100,000
Alabama.....	15	107,870,000	103,177,700	10,801,000
Texas.....	7	69,340,493	73,572,493	17,710,000
Mississippi.....	9	37,916,789	30,616,457	5,840,213
Arkansas.....	11	54,159,915	55,788,519	14,067,613
Louisiana.....	9	53,450,000	42,650,000	12,650,000
Members.....	29	247,665,072	262,538,977	70,470,299
Total.....	96	667,778,597	658,350,721	142,365,125

In concluding his report Mr. Smith said: "Looking back now over the past two years' association work, I wish to thank officers, directors and members for the generous manner in which their time and money has been expended for the good of our industry, and can only hope that in the future the interest may be extended and the benefit of our combined efforts be so manifest that the annual meeting of 1893 will mark a new era in the history of our association." After the president had announced the various committees for the year the association adjourned.

On Tuesday the association met and was called to order at 10.15 A. M. The president announced a communication from the congressional forestry committee in which a wish was expressed to have further tests made regarding the durability and strength of yellow pine. He favored giving the committee all the aid possible. The committee on price-lists recommended the adoption of one price-list for west of the river and one for east of the river, the list for west of the river to be based on Arkansas Manufacturers' Association's list adopted November 10, with an advance on all clear and star finish, including casing, molded casing, and base of \$1.00 per thousand. Prices east of the river: Flooring, strip count, first and second, flat grain, \$14.00; first and second rift, \$19.50; clear face rift, \$26.00; 3/8-inch common flooring, \$9.50; plain or beaded ceiling, same as flooring of same grade and thickness; 3/4-inch ceiling, first and second, \$11.00; 1/2-inch ceiling, first and second, \$12.00; 3/8-inch ceiling, first and second, \$14.00. The committee on World's Fair exhibit, after a lengthy discussion on the subject of raising funds, submitted another report:

First—That cypress manufacturers be invited to join in the work, and that cypress lumber be used in the decorations in the proportion to the amount of their subscriptions.

Second—That a committee be appointed to receive bids and let the work on such plans as they select, the cost not to exceed \$3000.

Third—That all wood used in these decorations to be selected from the yellow-pine and cypress product of the States contributing.

At the afternoon session Mr. Woodworth moved to proceed with the election of officers, and nominated J. B. White, who expressed thanks and declined. J. B. White named J. A. Freeman, who declined. Several prominent members begged Freeman to accept, and J. B. White called for a vote, upon which Mr. Freeman was forced to take the chair. The balance of officers elected were: First vice-president, J. H. Hinton; treasurer, George K. Smith; vice-presidents—Alabama, W. E. Sistrunk; Arkansas, P. G. Gates; Florida, E. F. Skinner; Mississippi, J. J. White; Louisiana, George Lock; Missouri, R. A. Songs; Texas, Calvin Woodworth. Directors—Alabama, W. W. Smith; Arkansas, A. Strauss, A. J. Niemeyer; Louisiana, William Burton, George

Lock; Mississippi, G. S. Gardiner; Missouri, J. B. White, Joseph Fischer; Texas, W. A. Fletcher. The committee on resolutions submitted a report embodying a very complimentary resolution to retiring president and secretary; also a resolution thanking local lumbermen through J. W. Black, A. S. Benn and Edwin W. Craighead for courtesies extended. Adopted. The association adjourned to meet on the third Wednesday in August at Memphis, Tenn.

Consolidation of the J. A. Fay and Egan Companies.

The negotiations that have been in progress for some time for the consolidation of the two great companies of J. A. Fay & Co. and the Egan Co. are now complete, and the officers of the new J. A. Fay & Egan Co. will take charge about March 1.

The successful bringing together of these two companies, which have for so long been the sharpest of business rivals, is a piece of engineering that reflects the skill of those who managed the negotiations. The new company will be the largest of its kind in the world, and just as the two which compose it have always stood at the very front of enterprise in their respective lines, so it may be expected that the new company will occupy an even more conspicuous and influential place.

The directors of the new company will be Thomas P. Egan, Frederick Danner, W. H. Doane, D. L. Lyon, David Jones, W. P. Anderson, Joseph Rawson, S. P. Egan and Edward Ruthven. Thomas P. Egan will be president and the soul of the enterprise, as he has been of the old Egan Co.; Mr. Danner will be vice-president; S. P. Egan, superintendent, and Mr. Ruthven, secretary. These four officers are of the Egan Co.

The Egan Co. was formed about 1873, the start being in a small way. Mr. Thomas Egan was in the original company with two partners. In 1880 there was a separation of interests, and a stock company was formed, with Mr. Egan, his brother, Fred Danner, Florence Marmet, Samuel C. Tatem, John Mitchell and others interested. The start was made on Central avenue, but in two years the factory was moved to Front street, in a building thirty by eighty, of three stories, and a part of which was rented to other firms. But the business grew so rapidly under Mr. Egan's management that the tenants had to get out. Mr. Egan was a believer in advertising, and he spent more money in that way than any other firm in the same line of business. But he had results from it, and the business grew. Additional land had to be bought and new factories built, until now the buildings cover the square bounded by John, Front, Central avenue and Greenleaf streets.

This company has fitted up some of the largest institutions in the world with its machinery. Among its customers have been the prominent railroads of every country and the government navy-yards. At present it employs about 400 men in the machine works alone, and as many more in the foundry. It has agents in all large cities at home and abroad, and its circulars and catalogues have to be printed in Spanish, Swedish, French and other languages.

The original J. A. Fay & Co. was established in Keene, N. H., about 1835. The business soon extended into the West, and on account of the difficulties and expense of transportation it was determined to establish a branch in Cincinnati, the most central of the large cities of the country. There was no through railroad from the East, and freight had to be carried by the Erie Canal to Buffalo, by steamer thence to Cleveland, and by canal to Cincinnati. The frequent handling of goods required in making a shipment and the freight charges made it so expensive that transportation charges exhausted about all the

profits. So the Cincinnati branch was started about 1850 as a distributing point for the West and Southwest. The beginning was in a small way, and the managers were John Cheney and C. E. Reed, both now dead. The business did not grow as desired by the home office, and Mr. W. H. Doane, who had been connected with J. A. Fay & Co. since 1851, was placed in charge of the Cincinnati branch. This was about 1860. He took hold of things in his characteristic, energetic way and made them go. When he took charge there were not more than fifteen men employed in the works. Now there are over 500. As the business extended Mr. Doane added building after building until a whole square has been covered. It was not long after Mr. Doane was given the management of the Cincinnati branch until it had grown to be greater than the home plant, and soon absorbed it. Mr. Doane has ever since been president, treasurer and manager of the business, and he and D. L. Lyon, his brother-in-law, as vice-president and secretary, have controlled the concern, holding considerably more than a controlling interest.

The consolidated company is the largest manufacturer of woodworking machinery in the United States, and is the only one which can fit out a woodworking establishment entire with machinery made by itself. The two establishments occupy squares on opposite of the street, and will be connected by an overhead bridge.

A Cypress Lumber Combination.

The cypress manufacturers of Louisiana are about to organize a corporation to be known as the Cypress Lumber Co. for the purpose of selling on commission or otherwise the entire cypress output of the United States. This product is now handled by about twenty-five firms. It is proposed that the headquarters of the company shall be in New Orleans, as this city is the centre of the cypress lumber industry of Louisiana, which amounts to 50 per cent. of the business of the whole country in this line. A committee was appointed at a meeting held in New Orleans after the adjournment of the Southern cypress lumbermen's convention to investigate the above scheme of organizing this company. The committee was composed of the following prominent lumbermen: Pearl Wright, W. R. Murray and W. L. Burton, New Orleans, La.; F. B. Williams, Patterson, La.; E. J. Marsh, Baton Rouge, La.; G. Bedell Moore, San Antonio, Texas; J. C. Turner, Harvey, La., and G. M. Borrie, Whitecastle, La.

Mobile's New Lumber Industry.

Work has begun at Mobile, Ala., on the erection of a factory for the manufacture of buggy and wagon spokes of white oak and hickory, with a capacity of one carload per week, which will be followed by a complete outfit for making handles. The plant is to be operated by the Mobile Spoke & Handle Co., which has been granted a charter with the following incorporators: John M. Ladd, Jr., G. Clifton Clarke and Frank M. Ladd, and with a capital stock of \$10,000. In connection with this plant the Mobile Shingle Manufacturing Co., which is composed of G. C. Clarke and Jno. M. Ladd, Jr., will erect a new shingle mill and saw mill combined. Work on this latter industry has also been commenced, and it will be ready for operation by midsummer. Over 200,000 shingles and 20,000 feet of lumber will be turned out daily.

Southern Lumber Notes.

MESSRS. REEVES BROS. and Jno. Hewett, of Mansfield, La., and J. C. Ringras, of Shreveport, La., have formed the Howcott Lumber Co. and intend erecting a first-class saw and planing-mill plant on the line of the Houston, Central Arkansas & Northern

Railroad. The company will cut the yellow-pine timber on a 3500-acre tract of land recently purchased from the Burton Lumber Co.

A WILLERT'S SONS Co.'s new cypress mill at Plaquemine, La., is rapidly nearing completion, and will be running in a few weeks.

A SCHOONER was loaded for Mexico with ties last week by the Beaumont Lumber Co. at Beaumont, Texas.

A NEW company has been formed by Messrs. W. L. Hayden, Ben M. Foreman, Thos. Orr and W. W. Shaw, of Texarkana, Texas, and will erect a lumber mill at Mandeville, where they have purchased site. The plant is destined to cut oak and pine lumber.

THE Martin Lumber Co.'s plant at Alden's Bridge, La., has been improved with a new boiler and other additional machinery, and a new molder is being installed in their Bolinger (Ark.) plant.

ANCOIN, BREAU & RENOUDET's new saw mill, now building at New Iberia, La., will be completed by April 1, and will have a daily capacity of 50,000 feet of lumber. Their new planing mill and tank factory has been completed and is now in running order.

MESSRS. E. G. & W. F. GRACE have commenced work on their new stave and heading factory at New Albany, Miss.

MESSRS. MATHENY BROS. have completed a new saw mill at Otto, Tenn., and commenced operations.

MESSRS. MILLS & LAMBERT, of Miles, Ala., have removed their lumber mill to Poplarville, Ala., where they have a tract of yellow-pine timber recently purchased.

THE Edisto Cypress & Shingle Co.'s plant on the Edisto river, S. C., near the town of Edisto, is rapidly going up, and operations will soon be commenced.

THE James Lumber Co., succeeding L. James, of Charleston, W. Va., was chartered February 7 with a capital of \$25,000, and will operate saw mills, etc. L. James has been elected president, and J. I. Barker, secretary and treasurer.

THE Central Georgia Land & Lumber Co.'s fine saw mill at Sibley, Ga., was destroyed by fire on the 5th inst., causing a loss of \$87,000. It will doubtless be rebuilt at once.

MESSRS. MOFFETT BROS., of Sanford, N. C., have commenced the erection of a saw mill.

R. C. VANDEGRIFT & SON, of Charlottesville, Va., want prices on white and yellow-pine lath $\frac{3}{8}$ " x $1\frac{1}{2}$ " x 4' in carloads delivered.

THE Warren Lumber Co., of Beaumont, Texas, has again been ordered sold, the sale to take place on the first Tuesday in April.

C. H. WOOTEN's fine shingle mill near Scotland, Ga., was destroyed by fire last week, but will soon be in running order again, as Mr. Wooten intends rebuilding immediately.

MR. C. H. STANTON, of Lenoir, Tenn., has secured several million feet of poplar and white pine tributary to the Knoxville Southern Railroad, and intends to put in some portable mills to cut same.

THE shipments of lumber from Fernandina to the 15th inst. were over 2,500,000 feet.

THE A. B. Scule Lumber Co.'s planing mill near Chauncey, Ga., and lumber-kiln, with \$30,000 worth of lumber, was destroyed by fire this week. The loss is about \$60,000; partially insured.

MESSRS. WILHELM & SON's new saw mill, near Fort Myers, Fla., is about ready to commence cutting. They have equipped with all the latest machinery, including planer, etc.

THE Columbia Veneer & Box Co., of Louisville, Ky., has been granted a charter

for the manufacture of lumber, veneer, shooks, boxes, etc., with the following incorporators: C. C. Mengel, Jr., Jos. M. Baker and C. R. Mengel. The capital stock is placed at \$100,000 in \$100 shares.

THE Dale Lumber Co., of Newton, Ala., has completed its saw mill and commenced operations. The company has a capital stock of \$75,000, and its plant is fully equipped with the latest improved machinery to cut 60,000 feet of lumber daily. D. M. Rogers is president of the company.

THE Aberdeen (N. C.) Lumber Co.'s mill is now completed and in running order. The plant is fully equipped with all the latest machinery for the manufacture of long-leaf North Carolina yellow-pine flooring, wainscoting and ceiling, and the company solicits orders. The company is composed of A. W. Adam, of Aberdeen; W. G. Maurer, of Girardville, Pa., and R. A. Wagner, of Frackville, Pa.

THE Freeman Lumber Co., to which a charter has recently been granted, intends to manufacture and sell lumber, and already has a plant at Leggett, Texas, equipped with saw and planing mills, tramways for logging, etc. The incorporators are C. A. Gill and M. G. Parish, of Dallas; J. H. and H. E. Bemis, of Jefferson, and D. L. Wright, of Texarkana, and Mr. Gill has been chosen president. Their capital stock is placed at \$50,000.

THE Log Mountain Co., of Pineville, Ky., awarded contract on the 16th inst. for a 12-mile railroad to be built to its properties. Mr. F. A. Hull, the president of the concern, writes us that they are opening a 47-inch vein of cannel coal and preparing for logging on an extensive scale.

AMONG the clearances from Brunswick this week were the schooner Maggie Chadwick, for San Juan, Porto Rico, with scantling and deals measuring 200,536 feet, and the barkentine Stephen G. Hart, for Rio Janeiro, with deals measuring 473,479 feet and valued at \$6,155.12.

THE Altamaha Cypress Lumber Co. stockholders from all points of the country met in annual session on Monday last in Brunswick, Ga. The meeting was held in their new offices at the company's plant, and the business transacted was not given to the public.

JOHN KIRBY, in behalf of the Texas Pine Timber Co., a New England syndicate, lately effected the largest timber sale ever recorded in the South. The sale is of standing timber, and the amount involved is \$750,000. The Reliance Lumber Co., of Beaumont, Texas, is the purchaser. In order to deliver the product a railroad will be built from Beaumont to connect the Southern Pacific and Trinity & Sabine railroads. This proposed railroad will be further extended, and may be absorbed by either the Southern Pacific or Missouri, Kansas & Texas.

A CHARTER has been granted to the Allapaha Land & Lumber Co., at Atlanta, Messrs. Stephen G. Clarke, Edward P. Kennard and Daniel McKee, of New York, and Daniel W. Rountree, of Atlanta, being the incorporators. Their capital stock is to be \$1,000,000.

THE Walkertown (N. C.) Lumber Co. is putting in additional machinery for manufacturing tobacco boxes, and are manufacturers of all kinds of rough and dressed lumber.

THE Southern Lumber Manufacturers' Association at their late annual session in Mobile, Ala., succeeded in collecting \$1500 for finishing the main vestibule in the forestry building at the World's Fair in Chicago.

At Greenville, Texas, on the 17th inst. attachments to the amount of \$4000 or \$5000 were said to be issued against the Greenville Lumber Co. Efforts, however, will be made towards an adjustment, so that they can continue business.

Everything connected with the lumber trade in this section indicates the opening of a very active business during the spring and summer of the current year, and at present the lumber market may be considered in good shape. Stocks, however, have been considerably reduced, and buyers are now considering how hasty they were in selling early. The Beaumont *Journal*, in its review of the lumber market, says: "Lumber manufacturers are beginning to feel bad, but it is not due to slack trade. It is because they have rushed their stock on the market and sold at lower prices than they will be able to obtain in the next thirty days. There is every indication of a remarkably brisk business in the spring, the demand thus early being very large and orders coming in on list prices. This condition extends throughout the trade, embracing all grades of material." There is a good demand for shingles, and values hold remarkably steady. Last week Mr. John Kirby, representing the Texas Pine Land Association, sold to the Reliance Lumber Co. 120,000,000 feet of timber. The delivery of the timber is to extend over a period of five years; 24,000,000 feet being delivered annually. The Warren Lumber Co. has again been ordered sold, the sale to take place on the first Tuesday in April. On the 8th inst. the Bradley-

Ramsey Co., of Lake Charles, La., purchased the entire milling plant and stock of lumber of the Mount Hope Lumber Co., and hereafter their recent purchase will be operated in connection with their large double mill. At Orange lumber matters are also in fair shape. The past few days have been wet, and shipments have fallen off in consequence, but there is every prospect of better weather, when a large force of loaders will be put to work. The Miller Shingle Co. is about to set to work with a large force, as it has contracted for a lot of cypress logs scaling in all about 500,000 feet. The timber will be shipped down the Neches, across the lake and into the mouth of the Sabine river, where the delivery will be made. The Orange Lumber Co. has overhauled its dry-kiln and made many important improvements, besides having increased the capacity of its dry-kiln one-half. At Westlake and Lake Charles, La., there is a good business in progress, and mills are all generally working up to their full capacity.

IRON MARKETS.

Philadelphia.

[From our own Correspondent.]

PHILADELPHIA, February 22.

The developments of the past week in financial circles have had somewhat of a depressing effect on the iron market in general, and buyers during the past few days have shown even greater cautiousness in placing orders. A large business is being done in both crude and finished products, but the market is without life and largely in buyers' favor. While there is plenty of pig iron with which to fill orders, still the furnacemen are not threatened by any heavy accumulation of stock either in their own yards or with their consumers, and there is apparently no reason for the weakness in prices which developed some weeks ago and still continues. Concessions are even more numerous than they were, and outside of the favorite brands, which command full quoted rates, buyers seem to have no difficulty in covering their wants on extremely favorable terms. Purchases continue in lots as small as the exigencies of each individual case will permit, and where any heavy orders placed for future delivery it is believed that even better prices could be obtained. Buyers, however, look upon existing rates as not likely to go any higher for some time, and as nothing can be gained by anticipating their wants they consider that a waiting policy may enable them to secure even cheaper material. In this market the following quotations fairly represent the range of prices at which sales have been made of leading brands of Northern and Southern iron, tidewater delivery or its equivalent, the usual concessions being named for Southern brands at points in central Pennsylvania and as far south as Baltimore.

Standard Pa. No. 1 X.....	\$14 75@	15 25
" " No. 2 X.....	14 25@	14 50
" " Forge.....	13 00@	13 50
Southern coke No. 1 foundry.....	14 25@	14 50
" " No. 2.....	13 50@	13 75
" " gray forge.....	13 00@	13 25

Pittsburg.

[From our own Correspondent.]

PITTSBURG, February 22.

The week just closed was one of considerable activity and a general favorable movement. There was nothing like a rush or boom, but a substantial business that has had a strengthening effect on the trade. There was a slight improvement in gray forge, foundry iron, and another upward movement in Bessemer. Sales were not very numerous, but quite satisfactory in character, both as regards quantity of material sold and the rates that the transactions were made under.

The steady demand for gray forge and Bessemer is considerably better than for a

long time, and has had the effect of lifting them completely out of the very deep hole where they lay for so long. Gray forge has now advanced easily to \$12.40, and by a week or so more will be at the old standard of \$12.50, which held good for a long time. Bessemer has kept pretty strong through the week in spite of efforts to depress it, and sales are readily consummated now on a basis of \$13.50 to \$13.70. There are some persistent "calamity howlers" who seem determined to force the prices of all grades of pig iron down to an unnatural level, and these are shrieking against the slow but steady advance. In the face of efforts to force Bessemer back, the steady demand has proven the stronger, and next week will likely see a still better rate. The recent great drop was due to the furnacemen alone, who had an object in view, and allowed the market to react of its own volition when their opportunity had passed. As a matter of fact, the furnacemen did not expect that the slump in prices would attract sales, and actually refused business above the then prevailing rates. The following prices are very firm:

Gray forge.....	\$12 40@	—
Mill iron.....	12 50@	12 75
Foundry No. 1.....	14 00@	14 10
" " No. 2.....	13 00@	13 10
Bessemer.....	13 50@	13 70

Sales during the week included 6000 tons of gray forge at the quotation given. Of Bessemer, 6000, 3000 and 4000 tons were sold for \$13.60, delivered in March and the remainder of this month; there were also sales of smaller amounts at \$13.65, and one said to be 12,000 tons at a price equal in Pittsburg to \$13.35, but this is not a certainty.

Wheeling.

[From our own Correspondent.]

WHEELING, W. VA., February 22.

The largest sale of pig iron that has been engineered in Wheeling in many a day was consummated more than a week ago, but so very quiet were the details kept that few outside of the contracting parties and a firm of outside brokers who handled it knew anything of it till yesterday. The property transferred was 18,000 tons of Bessemer iron, and the maker and purchaser are both Wheeling concerns. The price paid is not made public, but quotations at the time were about \$13.35, and it is not likely that a better figure than that was secured. As was noted last week, there was an advance and a greater freedom displayed by buyers on this line about the time the sale was made, and it is now apparent that the removal of so large a block of stock from the hands of a producer was responsible for this condition. This sale tended to increase confidence, and seems to have turned back the downward trend of the local Bessemer market.

Bessemer has seen still further advances this week, and is now selling well up to \$13.75. This figure may be shaded a little, but the shading will not be a feature after this week unless there is an unexpected and very radical change in the present tendencies.

Things generally are looking better this week, and mill irons show more strength. Finished products that were weakening last week are now standing in stable equilibrium, and those that were standing last week are tending upward at a very satisfactory though not rapid rate. Spring trade seems to be promising well, and a much brighter season than was contemplated a few weeks ago is now almost in view.

Under the influence of these conditions mill irons are very much firmer. Where \$12.25 was quoted a week ago \$12.50 is now demanded, and one furnace that last week was selling for future delivery at \$12.40 now refuses to accept immediate delivery orders at \$12.50. Southern furnaces that were in the market as price-breakers are now asking almost as much as

Northern furnaces for the same grades of stock.

Sales of mill thus far this week are reported to aggregate 1000 tons.

Foundry is standing a little firmer this week, though there is no material increase in prices. \$13.50 for No. 2 is about the lowest notch, and several sales amounting to 500 tons are reported at that figure.

Prices are quoted as follows:

No. 1 Northern mill iron.....	\$12 50@	—
No. 1 Southern mill iron.....	12 25@	12 50
No. 1 Northern foundry.....	14 25@	14 50
No. 2 " ".....	13 50@	13 65
No. 3 " ".....	12 75@	13 00
No. 2 Southern ".....	13 40@	13 50
Bessemer.....	13 50@	14 00

Chicago.

CHICAGO, February 18.

The past week has shown a considerable buying movement, but confined mostly to small lots, although inquiries now coming in are for larger amounts, which would seem to indicate consumers have about come to the conclusion that the bottom has been reached. It is expected some large contracts for Southern coke iron and Lake Superior charcoal will be placed within the next thirty days.

We quote for cash f. o. b. Chicago:

Southern No. 1 soft.....	\$13 35@	13 60
No. 2 soft.....	12 85@	13 00

ROGERS, BROWN & MERWIN.

St. Louis.

ST. LOUIS, February 18.

Purchases of iron continue for both large and small lots, notwithstanding the prediction of some that the market will go lower. This proves that stocks in consumers' hands are low and iron must be secured for immediate and nearby requirements.

We quote for cash f. o. b. St. Louis:

Southern coke No. 1.....	\$14 00@	14 25
" " No. 2.....	12 75@	13 00
" " No. 3.....	12 25@	12 50
" " gray forge.....	11 75@	12 00
Missouri charcoal No. 1.....	15 50@	16 00
" " No. 2.....	14 00@	14 50
Ohio softeners.....	16 50@	17 00
Lake Superior car wheel.....	17 50@	18 00
Southern " ".....	18 25@	18 50
Frick's Connellsville foundry coke.....	—	5 65

ROGERS, BROWN & MEACHAM.

Louisville.

LOUISVILLE, February 18.

The market remains without any essential change for the past week. One or two good-sized orders have been reported at very close figures, and in one instance a sale is said to have been made at such a shaded price that it is doubtful about its being confirmed by the furnace for whose account the transaction is supposed to have been made. Beyond these few cases there is nothing else of interest to be reported. Stocks are said to be accumulating.

HOT BLAST FOUNDRY IRONS.

Southern coke No. 1.....	\$13 50@	13 75
" " No. 2.....	12 50@	12 75
" " No. 3.....	12 00@	12 25
" " charcoal No. 1.....	16 00@	17 00
" " No. 2.....	15 50@	16 00

FORGE IRONS.

Neutral coke.....	11 50@	12 00
Mottled.....	11 00@	11 25

CAR-WHEEL AND MALLEABLE IRONS.

Southern (standard brands).....	20 00@	21 00
" " (other brands).....	18 50@	19 50
Lake Superior.....	19 50@	20 50

HALL BROS. & CO.

COTTON MARKET.

NEW ORLEANS, LA., February 20.

Editor Manufacturers' Record:

It is now realized that the decline of the last ten days, which put May here at 8.62 and in New York at 8.84, while the lowest that middling cotton touched here was 8 11-16, was brought about more by a scare than any actual weakness of cotton itself. Where cotton on contracts were being held on margin there were urgent calls for further protection by brokers or those actually holding the cotton, and on the 14th inst. it looked as though the trouble between the English operatives and the masters was a matter of indefinite postponement as to a settlement, and this, together with the uncertainties of the Hatch bill, brought about a demoralized condition of things, indicating a still more

serious decline. On the morning of the 15th inst., however, Liverpool unexpectedly came better, and then again news of a probable settlement of the differences between capital and labor in the Oldham districts brought about large buying by those who were short of contracts in Liverpool, where the advance has been very extreme. This was again followed by a better spot demand here and a more confident feeling among the holders, and the closing here today is forty-two higher than the closing of the 14th inst., while Liverpool is 15-64 better. We have not for two months changed our ideas as to the size of this crop, and as up to Friday last, the 17th inst., the amount that had come into sight was 5,582,405 bales, we still adhere to our estimate of 6,300,000, because we do not see where 700,000 bales more are to come into sight between last Friday and 1st of September next. We are becoming quite convinced on the strength of our correspondence that the Southern producer is rapidly coming to the conclusion that the only escape from bondage is in reduced cotton acreage, and look more after his meat and bread by raising it than by obtaining advances and waiting upon the uncertainties of the fruition of his crop to pay for what he has eaten and has been clothed with during the period between the planting and gathering of it, with the chances being largely in his favor of coming out uneven at the end of the year. The South has now too many competitors in the cultivation of cotton to rely upon supremacy as cotton-producing people, and Great Britain has too many competitors as consumers for this country to rely upon the English spinner to take so large a proportion of the American crop as heretofore, and then, too, as manufacturing countries elsewhere than Great Britain or the Continent increase consumption of cotton other than American, we must adapt the size of American crops hereafter to a smaller consuming power, perhaps, so far as England is concerned, anyhow, and furthermore be forewarned in time that high prices, or, anyhow, higher than we have had for several years, will stimulate the production of cotton where it is now being grown outside of the Southern States of America, and perhaps induce the cultivation of it in some countries where it might pay to try it, if only experimentally. Consequently, we say most decidedly that American crops must be kept well within 7,000,000 bales to keep the South from depression and impoverishment. The uncertainties as to the size of the new crop are such as to make it dangerous, in our opinion, to sell cotton except to realize profits, and, therefore, with the strike settled and the Hatch bill out of the way, it would seem best to buy on all depressions, with the chances in favor of material improvement.

ATWOOD VIOLETT & CO.

CLOSING PRICES OF COTTON FUTURES.

Months.	New Orleans. Feb. 21.	New York. Feb. 21.	Liverpool. Feb. 22.
February.....	8.92	9.05	4 63-64 sel.
March.....	8.92	9.10	4 63-64 sel.
April.....	9.00	9.21	5 1-64
May.....	9.47	9.30	5 2-64
June.....	9.13	9.39	5 4-64 buy.
July.....	9.17	9.45	5 6-64 sel.
August.....	9.17	9.47	5 5-64
September.....	8.97	9.27	4 62-64
October.....	8.87	9.16	4 59-64 val.
November.....	.....	9.11	.....
December.....	.....	.....	.....
January.....	.....	.....	.....
Tone of market.	Steady.	Steady.	Firm.

CLOSING PRICES OF SPOT COTTON.

Grade.	New Orleans. Feb. 21.	New York. Feb. 21.	Liverpool. Feb. 22.
Middling.....	9	9 1/4	5
Low middling.....	8 3/4	8 13-16	4 3/4
Good ordinary.....	8 3/4	8 1/2	4 3/4
Tone of market.	Steady.	Dull and firm.	Easy.

CONSTRUCTION DEPARTMENT.

WE PUBLISH, every week, a list of every new factory, of whatever kind, projected anywhere in the South; every railroad undertaken, and every mining company organized. This information is always fresh, and, by enabling manufacturers to correspond with the projectors of such enterprises before their supplies of machinery have been purchased, is of great value. Manufacturers will find it to their interest to read this department carefully each week.

* Means machinery is wanted, particulars of which will be found in "Machinery Wanted" columns.

† In correspondence relating to matters reported in this paper, it will be a favor if it is stated that the information was gained from the MANUFACTURERS' RECORD.

ALABAMA.

Anniston—Bucket and Wheelbarrow Factory.—Stringfellow & Whitstone have put in machinery for manufacturing buckets and wheelbarrows.

Eufaula—Cotton Mill.—The Chewalla Cotton Mills has been organized to erect plant. J. P. Fay is president, and the capital stock is \$50,000.*

Mobile—Shingle Mill.—The Mobile Shingle Manufacturing Co. composed of John M. Ladd, Jr., and G. C. Clarke and will erect a shingle mill.

Mobile—Spoke and Handle Factory and Shingle Mill.—The Mobile Spoke & Handle Co. has been organized by John M. Ladd, Frank M. Ladd and George C. Clarke to manufacture spokes, handles, sash, doors, shingles, etc. Their capital is \$10,000.

ARKANSAS.

Bolinger—Lumber Plant.—The Martin Lumber Co. has put in new machinery.

Little Rock—Cooperage Plant.—The Little Rock Cooperage Co. has been incorporated to manufacture and deal in staves, heading, etc. Its capital stock is \$50,000.

FLORIDA.

Fort Myers—Saw Mill.—Messrs. Wilhelm & Son will erect a saw mill.

Thomasville—Cigar Factory.—The Thomasville Real Estate, Building & Banking Co. will establish a cigar factory.

GEORGIA.

Americus—Canning Factory.—David Rogers will start a canning factory.

Augusta—Ice Factory.—The City Ice Co. will organize and erect a 50 to 70-ton ice manufacturing plant. Contract has been let to the Columbia Iron Works Co.

Cartersville—Mining, etc.—D. W. K. Peacock, W. H. Howard, James M. Neel, J. W. Harris, Jr., and Julius L. Brown have incorporated the Bartow Mineral Co. for mining purposes, etc. The capital stock is \$20,000.

Helena—Barrel Factory.—J. C. Sheet is equipping a barrel factory.

Pine Log—Flour Mill.—Perry Parbrough will erect a roller flour mill.*

Rome—Chemical Works.—The Rome Chemical Co. will double the storage capacity of its chemical works.

Savannah—D. G. Purse, John C. Rowland, C. H. Dorsett and others have incorporated the Merchants & Mechanics' Land Co. with a capital stock of \$100,000.

Scotland—Shingle Mill.—C. H. Wooten will rebuild his shingle mill reported in this issue as burned.

Sibley—Saw Mill.—The Central Georgia Land & Lumber Co. will rebuild its saw mill reported in this issue as burned.

KENTUCKY.

Louisville—Bagging Factory.—W. R. Johnson and others have purchased the Louisville Bagging Co.'s property and will operate same.

Louisville—Box Factory.—C. C. Mengel, Jr., J. M. Baker and C. R. Mengel have incorporated the Columbia Veneer & Box Co. to manufacture and deal in veneer, boxes, etc. The capital stock is \$100,000.

Louisville—Commission Company.—The J. H. Eaves Co. has been incorporated by J. H. Eaves and J. W. Hocker; capital stock \$25,000.

Newport—Iron and Brass Foundry.—Philip

Diehl, Joseph Marshall and Henry Kuecher have incorporated the Newport Iron and Brass Foundry to manufacture iron and brass castings, etc. The capital stock is \$10,000.

LOUISIANA.

Alden Bridge—Lumber Plant.—The Martin Lumber Co. has put in additional machinery.

Howcott—Saw and Planing Mills.—The Howcott Lumber Co. has been organized to erect saw and planing mills.

Mandeville—Lumber Mills.—W. L. Hayden, Ben M. Foreman, W. W. Shaw and Thomas Orr, of Texarkana, Texas, have formed a company to erect lumber mills at Mandeville.

New Orleans—Tobacco Factory.—The Louisiana Tobacco Manufacturing Co. has been chartered with a capital stock of \$10,000.

New Orleans—Drug Company.—The Druggists' Supply Co. has been incorporated with a capital stock of \$25,000.

New Orleans.—Thos. Sully & Co., Limited, have chartered to conduct an architect business; capital stock \$50,000.

MARYLAND.

Baltimore—Distillery, etc.—Cahn, Belt & Co., Edward B. Bruce & Co., Records & Goldsborough, Martin & McAndrews, Chas. H. Ross & Co. and White, Daly & Co. will organize a \$100,000 stock company to erect a distillery to manufacture whiskeys and high wines.

Baltimore—Dry Goods Company.—Chas. Simon, Jr., A. Simon, E. Simon, Aug. Simon and C. Simon have incorporated the Simon Sons' Co. to conduct a general dry goods and notion business. The capital stock is \$100,000.

Baltimore.—The Hygienic Bottle Stopper Co., of Baltimore, was chartered recently in West Virginia with a capital stock of \$1,000,000.

Brunswick—Grain Elevator.—A company has been organized to erect a grain elevator. Site has been purchased from Wm. L. Gross.

Chestertown—Flour Mill.—J. P. Price will erect a flour mill.

Port Tobacco—Publishing Company.—John H. Mitchell, J. S. Turner, J. B. Mattingly, L. C. Carico and others have incorporated the La Plata Publishing Co. to issue a weekly newspaper, etc.

Snow Hill—Woodenware Factory.—A Delaware party will establish a factory for manufacturing wooden butter-trays, dishes, etc.

Washington, D. C.—Coal Mining.—A charter has been granted in West Virginia to the Black Diamond Coal & Mining Co., of Washington. Its purpose is to mine coal; capital stock \$500,000.

MISSISSIPPI.

Cumberland—Tannery.—The People's Tanning and Manufacturing Association has been incorporated to conduct a tanning and manufacturing business. O. C. Davis is president; E. W. Walker, vice-president, and J. O. Marshall, secretary, and the capital stock is \$50,000.

NORTH CAROLINA.

Elizabeth City—Ferry Company.—A bill has been introduced in the legislature to incorporate the Elizabeth City & Camden Ferry Co.

Mooresville—Cotton Mill.—The company recently reported as to erect a cotton mill will be known as the Mooresville Cotton Mills Co.; Geo. C. Goodman, secretary.

New Berne—Barrel Factory.—Jones & Co.'s barrel factory, recently reported, has commenced operations. A patent wire barrel is turned out, the output daily being 1000.

Raleigh—Bridge Company.—A bill has been introduced in the legislature to incorporate the Piedmont Toll Bridge Co.

Raleigh—Mining Company.—A bill has been introduced in the legislature to incorporate the Southern Metallurgical & Mining Co.

Rutherfordton—Cotton Mill.—The Rutherford Cotton Mill has been organized to erect a plant. J. C. Cowan is president; W. J. Hardin, vice-president, and M. Levi, secretary and treasurer.

Sanford—Quarries, etc.—The Southern Red & Brownstone Co. is enlarging its quarries and putting in new machinery.

SOUTH CAROLINA.

Charleston—Phosphate Works.—The Read Fertilizer Co. has rebuilt its fertilizer works recently burned.

Charleston—Mercantile Company.—R. H. Simons, J. T. Conner and E. St. Julian Grinke have incorporated the Charleston Produce & Commission Co. with a capital stock of \$10,000.

Lexington—Stone Quarry.—Mr. Hoffman will open a stone quarry.

TENNESSEE.

Alley—Flour Mill.—A. L. Mansfield will build a 100-barrel roller mill.*

Bristol—Land Company.—The North Bristol Land Co. has been incorporated to conduct a

general real estate business. The capital stock is \$60,000.

Elizabethton—Twine Factory.—The Tennessee Line & Twine Co. has been organized with Geo. N. Burdick, of Potter's Hill, R. I., president; A. B. Briggs, of Ashaway, R. I., vice-president, and Frank Hill, of Ashaway, R. I., secretary and treasurer, to establish a line and twine factory. The capital stock is \$18,000.

Otto—Saw Mill.—Matheny Bros. have started a saw mill.

River Hill—Pulp Mill.—A Mr. Hatch is equipping a pulp mill.

Salt Lick—Handle Factory.—Day & Woolworth will rebuild their handle factory recently burned.

TEXAS.

Beaumont—Iron Bridge.—Jefferson county will build an iron bridge across Taylor's bayou.*

Cleburne—Electric, Oil and Ice Plant.—The recently reported electric, ice and oil company has been incorporated as the Cleburne Light, Ice & Oil Co. with a capital stock of \$75,000.

Cuero—Grist Mill and Gin.—The Cuero Mill & Gin Co. has been organized to erect mill and gin. J. H. Bailey is secretary, and W. K. Freeden, treasurer.

Cuero—Milling and Ginning Company.—C. L. Stadler, S. C. Lackey, Alex. Hamilton, R. Goerling and others have organized the Farmers' Milling & Ginning Co.

El Paso.—J. Goodman, H. Goodman and Jay Good have incorporated the Goodman Produce Co. with a capital stock of \$30,000.

Fort Worth—Publishing Company.—Thos. L. Nugent, J. M. Moore, E. B. Doggett and others have incorporated the Advance Publishing Co. with a capital stock of \$30,000.

Galveston—Creosote Works.—Ricker, Lee & Co. will erect a creosote works.

Houston—Furniture Factory.—J. W. Jones, of Kansas City, thinks of establishing a furniture factory in Houston.

Houston—Brick Works.—Milby & Dow have doubled the capacity of their brick works.

Lampasas—Real Estate, etc.—W. T. and T. J. J. Campbell and N. H. Marshal have incorporated the Turnbull Real Estate Association. The capital stock is \$50,000.

Mexia—Cottonseed-oil Mill.—A cotton-oil mill will be erected at once. Seales & Culbertson can inform.

Velasco—Brick Works.—A \$12,000 stock company is being organized for the manufacture of pressed vitrified bricks, paving blocks, tiles and drains.

Wichita Falls—The Panhandle Hardware Co. has been incorporated by R. O. C. Lyncey, H. M. Durrett, J. F. Keller and B. F. White; capital stock \$100,000.

VIRGINIA.

Alexandria—Horseshoe Factory.—The Deumon Horseshoe Co. has been incorporated to manufacture horseshoes and appurtenances. The capital stock is \$100,000.

Alexandria.—The Brightwood Hotel Co. has been incorporated for the purpose of operating hotels and improving real estate. The capital stock is \$75,000.

Austinville—Electric Plant.—The Wythe Lead & Zinc Mine Co. will put in an electric plant to run its ore-washers, crushers, etc.

Avis—Chair Factory.—Thompson N. Lambert is erecting a chair factory.

Barren Springs—Mining.—The Barren Springs Mining Co. has been granted a charter; capital stock \$25,000.

Charlottesville—Publishing Company.—The Progress Publishing Co. has been organized by J. H. Lindsay and others.

Culpeper—Carriage Works.—E. L. Yancey will rebuild his carriage works reported in this issue as burned.

Lynchburg—Soap Factory.—Rudolph W. Rose has organized a \$10,000 stock company to establish a soap factory.

Norfolk—Iron Works.—The Lambert's Point Iron Works has been incorporated to manufacture engines, machinery, etc. The capital stock is \$25,000.

Pulaski City—Manufacturing and Mining.—The Norma Co. has been chartered to conduct a manufacturing and mining business with a capital stock of \$20,000.

Radford—Electric-light and Power Plant.—Charter has been granted to the Radford Electric Light & Power Co., with a capital stock of \$35,000.

Richmond—Manufacturing Fertilizers.—The Henrico Sanitary Co. has been incorporated to manufacture fertilizers; capital stock \$25,000.

Richmond.—The Virginia Navigation Co. has been organized with J. D. Platt, of Dayton, Ohio, secretary and treasurer; capital stock \$50,000.

Richmond—Brick and Terra-cotta Works.—The Powhatan Clay Manufacturing Co. has been incorporated by Messrs. Ginter, Pope and Arents with a capital stock of \$100,000.

Roanoke—Coal Mines and Coke Ovens.—The Jones Coal & Coke Co. has been incorporated with E. A. Herring, president, and J. P. Jones, secretary and treasurer, to mine coal and erect coke ovens. The capital stock is \$15,000, with privilege of increasing it to \$50,000.

Roanoke—Plumbing Company.—The Priddy-Dunlap Plumbing Co. has been incorporated with W. W. Dunlap, president; C. A. Huffman, vice-president, and H. R. Colman, secretary and treasurer; capital stock \$100,000.

Roanoke—Tobacco Factory.—Noah Partee will establish a plug and smoking tobacco factory.

Roanoke—Shirt Factory.—M. T. C. Jordan, J. Allen Watts and others are organizing a company to start a shirt factory.

Steele's Tavern—Flour Mill.—Walter Sarsen will equip his flour mill with new machinery.

West Lynchburg—Brick Works.—Messrs. Ford & Hughes have purchased the West Lynchburg Land Co.'s brick works and will operate same.

Wytheville—Mining and Manufacturing.—The Kayonlah Mining Co. has been incorporated to mine and manufacture; capital stock \$200,000.

WEST VIRGINIA.

Charleston—Hardwood Mills.—E. A. Smith and S. A. Grament, of Providence, R. I.; C. H. Eaton, of Huntington; E. W. Knight and M. Jackson have incorporated the Gauley Hardwood Co. with a capital of \$10,000.

Charleston—Packet Company.—L. A., J. L., Jno. A. and Rose E. Carr and D. E. Blake have incorporated the Big Kanawha River Packet Co. with a capital of \$12,000.

Davis—Electric-light Plant.—T. B. Davis, of Keyser, and others have incorporated the Davis Electric Light Co. with a capital stock of \$10,000.

Huntington—Saw Mill.—The Ensign Manufacturing Co. will erect a saw mill.

New Haven.—Geo. H. Barker, Jno. Blair, J. P. Capehart, Jr., of Syracuse, Ohio, and others have incorporated the J. M. Clark Towboat Co. with a paid-up capital of \$4000.

Sewell Depot—Coal Mines, etc.—W. S. Lewis, J. N. Carnes and W. R. Tyree and others have incorporated the Dunn Loop Coal & Coke Co. to mine coal, etc. Their capital stock is \$50,000.

Short Creek—Coal Mines.—C. D. Kyle, Elizabeth Cooper, Jennie S. Kyle and Salina Cooper have incorporated the Cooper Coal Co. to open mines.

Wellsburg—Oil and Gas Company.—William Nichols, Jas. Matthews, Lucas Watson and others have incorporated the Brooke County Oil & Gas Co.

BURNED.

Birmingham, Ala.—The Birmingham Flouring Mills; loss \$50,000.

Charlottesville, Va.—M. E. Engelman's cigar factory.

Culpeper, Va.—E. L. Yancey's carriage works.

Duck Hill, Miss.—J. D. Baker's cotton gin.

Greenwood, Miss.—The Leflore Ice & Coal Co.'s building.

Scotland, Ga.—C. H. Wooten's shingle mill.

Sibley, Ga.—The Central Georgia Land & Lumber Co.'s lumber plant.

BUILDING NOTES.

Abbeville, S. C.—Hotel.—A stock company is being formed to build a hotel.

Anniston, Ala.—Church.—Plans have not yet been adopted for the new edifice for the First Methodist Church. It will be a brick edifice with a seating capacity of about 600 in main auditorium and a hall to accommodate about 300. Steam or hot-water heating will be used, and the total cost is estimated at \$15,000. Rev. F. P. Culver, pastor, can be addressed.

Atlanta, Ga.—Asylum.—The Hebrew Orphan Asylum will be enlarged at a cost of \$20,000. R. A. Sonn, superintendent, can be addressed.

Augusta, Ga.—The building lately mentioned as to be erected by J. B. White will be for business purposes. It will have six or seven stories and be built of brick, stone, glass and iron. Architect Goodrich prepared the plans.

Augusta, Ga.—Hall.—A hall, pavilion and other buildings are to be erected at Augusta. Eugene J. O'Connor can give particulars.

Baltimore, Md.—The Mercantile Trust & Deposit Co. has purchased additional property, and will extend and improve its building.

Baltimore, Md.—Temple.—The Grand Lodge of Maryland, Knights of Pythias, has appropriated \$65,000 for the erection of a temple. Plans con-

template a brick structure with stone and terra-cotta trimmings, five stories high, surmounted by a turreted tower forty-five feet high. Its size will be 45x161 feet.

Baltimore, Md.—Building permit has been granted to F. O. Singer to erect six four-story dwellings and twenty-five two-story dwellings; also to Sommerfield Brewing Co. for a two-story building.

Bronson, Fla.—Courthouse.—Levy county is considering the building of a \$35,000 courthouse at Bronson. The county clerk can be addressed.

Charleston, S. C.—Hotel.—F. P. Dinkelberg, of New York city, will prepare plans for the proposed \$200,000 hotel on South Battery. It is contemplated to build a three-story structure 320x108 feet. It is to have all conveniences of a modern first-class hotel, including two elevators, etc.

Charlotte, N. C.—Jail.—Contract for remodeling the county jail has been let to the Pauley Jail Building Co., of St. Louis, Mo., at \$14,000.

Columbus, Ga.—The Board of Trade may erect a building. L. H. Chappell can give information.

Denton, Md.—Courthouse.—The building of a \$15,000 courthouse by Caroline county is contemplated. The county clerk can give information.

Fayetteville, N. C.—Church.—Plans and specifications have been adopted for remodeling the Presbyterian church. A. A. McKethan, Jr., can be addressed.

Glen Rose, Texas.—Courthouse.—The commissioners court of Somervell county has determined to build a new courthouse to cost not more than \$15,000, plans to be adopted later.

Hammond, La.—Hotel.—The Hammond Town Lot Co. contemplates building a hotel to accommodate 200 guests.

Jasper, Fla.—Jail.—Hamilton county has awarded contract for an \$8500 jail.

Jonesboro, Ark.—Church.—The Baptists have awarded contract to J. S. Elder for the erection of a brick edifice, 54x82 feet, to cost \$5889.

Knoxville, Tenn.—Maples Bros. will erect a four-story brick business building 26x120 feet to cost between \$8,000 and \$10,000.

Lexington, N. C.—Asylum.—A bill authorizing the issuance of \$200,000 of bonds for the purpose of erecting a county asylum has passed the legislature. County clerk can inform.

Little Rock, Ark.—School Building.—Plans have not as yet been adopted for the \$20,000 school building lately noted, but it will be a two-story structure with granite trimmings, slate roof, etc., and have eight rooms. Frederick Kramer, president of school board, can be addressed.

Richmond, Va.—Hotel.—Plans for the hotel recently reported as to be built by Messrs. Ginter, Pope & Arenas have been prepared by Carrere & Hastings, of New York, and accepted. The Italian villa style of architecture will prevail, and the structure will cost about \$500,000.

Roanoke, Va.—M. H. Clator will erect a \$10,000 brick store.

Roanoke, Va.—The Roanoke Warehouse Co. has been organized with a cash capital of \$20,000; Frank Moody, secretary.

Salem, N. C.—Hotel.—A three-story hotel to have electric elevator and other modern appliances will probably be built. J. S. Reid can give particulars.

Savannah, Ga.—School Building.—Plans are in preparation for a building for the Independent Presbyterian Sunday-School.

Sherman, Texas.—Depot.—The Texas & Pacific Railway Co. (office, Dallas) and the Houston & Texas Central Railway Co. (office, Houston) will jointly build a \$10,000 depot in Sherman.

St. Matthews, S. C.—Depot.—The South Carolina Railway Co. (office Charleston) will build a depot.

Summerville, S. C.—Church.—M. Caulfield, of Charleston, has been awarded contract to build a \$3500 edifice for St. Luke's Lutheran Church.

RAILROAD CONSTRUCTION.

Railroads.

Abbeville, La.—T. H. Leslie, of Stuttgart, Ark., has offered to build during this year a railroad from Abbeville to La Fayette to be known as the La Fayette, Vermilion & Gulf, and to give a bonus of \$25,000 to secure the establishment of a large factory in Abbeville, in consideration of the voting of a five-mill tax by the town of Abbeville and a two-mill tax by the parish of Vermilion for a period of ten years. The citizens seem favorably impressed with the proposition.

Aberdeen, N. C.—The Aberdeen & West End Railway Co. has applied to the legislature for authority to construct two branches. The company at present operates a 25-mile road from Aberdeen to Candor, N. C.

Belington, W. Va.—The Point Pleasant, Buckhannon & Tygart's Valley Railroad Co., previously noted as chartered, has been organized with J. W. Heavner, president; J. H. Hanson, vice-president, and W. G. L. Totten, secretary. The road is to run from Belington via Buck-

hannon and the Tygart's valley to Point Pleasant. Preliminary survey will be made in the spring.

Burlington, N. C.—The Burlington & Southwestern Railroad Co., lately mentioned, has obtained its charter from the legislature. The company is authorized to build a railroad from some point on the North Carolina Railroad in Alamance county to some point on the Cape Fear & Yadkin Valley Railroad in the counties of Guilford, Randolph or Chatham, and may extend its road towards the North Carolina-Virginia line and towards the North Carolina-South Carolina line. The incorporators are W. L. Holt, C. E. McLean, C. C. Townsend, J. H. Holt, Jr., J. W. Menefee, E. S. Parker, J. A. Turrentine, J. D. Kernodle, J. R. Ireland, R. A. Freeman, M. B. Wharton, L. A. Williamson and J. L. Scott, Jr. The authorized capital stock is \$500,000.

Burnet, Texas.—An offer to extend the Austin & Northwestern Railway from Burnet to Lampasas has been made by C. P. Huntington, and the bonus required is now being raised. The prospects for the bonus are very good.

Charlotte, N. C.—A bill has been introduced in the legislature incorporating the Columbia, Charlotte & Winston Railroad Co.

Charlotte, N. C.—The Charlotte, Troy & Guilford Railroad Co. has applied to the legislature for a charter.

Chimney Rock, N. C.—A meeting was lately held at Chimney Rock to formulate plans for building another railroad through western North Carolina. S. Farrow, of Gaffney City, N. C., can give particulars.

Durham, N. C.—A bill has been introduced in the legislature to incorporate the Durham & Siler Railroad Co.

Durham, N. C.—The Durham & Charlotte Railway Co., lately mentioned as applying to the legislature for a charter, intends building a railroad through the counties of Durham, Chatham, Moore, Montgomery, Stanley, Cabarrus and Mecklenburg, with privilege of building branches of not over thirty miles in length. The incorporators are J. S. Carr, W. M. Morgan, W. A. Guthrie and T. L. Peay.

Fort Smith, Ark.—The incorporators of the railroad proposed from Fort Smith through the Indian Territory and Oklahoma to New Mexico design to construct the road and are perfecting arrangements, and in due time will commence actual work; G. H. Healy, president.

Hickory, N. C.—The Catawba Toll Bridge Railroad Co. is the name of the company reported in last issue (under Raleigh) as applying to the legislature for a charter. A. A. Shuford, of Hickory, is interested.

Hodgenville, Ky.—J. C. Turner, engineer in charge of the survey for the extension of the Hodgenville & Elizabethtown Railway from Hodgenville to Scottsville, has made a favorable report, and it is expected the line will be built. It would be about fifty-five miles long.

Longview, Texas.—At the recent meeting of stockholders of the Texas, Sabine Valley & Northwestern Railway Co. it was decided to carry into effect the authority granted by the charter of the Texas & Sabine Valley Railway Co. to extend the road to Center.

Machen, Ga.—J. A. Droege, of Eatonton, reports that contract has been closed for building the Middle Georgia & Atlantic from Machen to Covington, including the erection of three bridges. Work will begin at once, and it is hoped to complete same within two or three months.

Marshall, Texas.—The Texas & Gulf Railroad Co. is the name of the company lately reported as to be chartered to build a railroad from Marshall to the Gulf of Mexico, a distance of 200 miles. The company calculates on building at once as far as Center, in Shelby county, a distance of sixty miles, but no contracts are let. L. W. Lloyd can give particulars.

Mobile, Ala.—The Mobile & Birmingham Railway Co. will build an extension into Mobile, and add materially to its coaling facilities at Mobile. It will also construct yards there.

Morgantown, W. Va.—Engineers of the Pennsylvania Railroad Co. (office, Philadelphia, Pa.) are said to be locating an extension from Uniontown, Pa., to Morgantown.

Patterson, N. C.—Edmund Jones writes that construction on a railroad from Patterson and Lenoir to Blowing Rock will commence within the next three months. The Blowing Rock & Lenoir Railroad Co., which has applied to the legislature for a charter, will build the road.

Pineville, Ky.—The Log Mountain Co. has awarded contract for building its 12-mile railroad, previously reported, to Joseph Coyne & Co., of Louisville, Ky. The work is to be finished in June.

Raleigh, N. C.—A bill has been introduced in the legislature to incorporate the Polk County Railroad Co.

Roanoke, Va.—An election will probably be held to consider the subscription to \$100,000 of the capital stock of the Roanoke, Fincastle & Clifton Forge Railroad Co. by the city. The Chesapeake & Ohio Railroad Co. (office, Richmond) has offered to build the road from Roanoke via Fincastle to Salisbury if the subscription is made.

Swansborough, N. C.—A bill is before the legislature incorporating the Neuse River & Swansborough Railroad Co.

Tallahassee, Fla.—J. M. Mayo, of Ocala, Fla., who is reorganizing the Florida, Georgia & Western Railroad Co., hopes to have it on its feet within a few weeks. The company was formed to build a railroad from Tallahassee to Charlotte Harbor. It has laid six and a-half miles of track, graded and cross-tied thirty-one miles of road, and located the line to the Suwannee river.

Street Railways.

Augusta, Ga.—Work is to commence at once on the construction of the 6-mile electrical railroad to Murray Hill. Malone Wheelless is president of the company.

Baton Rouge, La.—The Capitol Railway & Lighting Co., B. R. Mayer, president, has completed tracklaying for its electrical railroad previously reported, and the overhead work is being put up. It is expected to have the line in operation by March 10.

Henderson, Ky.—The Henderson Street Railway Co. will apply to the city council for permission to operate its road by electricity.

Jacksonville, Fla.—It is learned that the Jacksonville Street Railway Co. has decided to equip its ten miles of road with electricity without any further delay, and will invite bids for supplying entire equipment. George W. Haines, of Savannah, Ga., is superintendent, and can be addressed.

Lynchburg, Va.—The company now applying to the city council for a street railway franchise proposes to build the road as soon as it can make arrangements and secure estimates. Jno. Stewart Walker can inform.

Norfolk, Va.—The Norfolk City Railway Co. and the Suburban Railway Co. have each been granted a 25-year extension of their franchises on condition that they adopt electricity as a motive power and double-track portions of their lines. This work will be commenced within ninety days and completed within eighteen months.

Tyler, Texas.—The Tyler Street Railway Co., referred to in last issue, has agreed to operate its seven miles of road by electricity.

Wellsburg, W. Va.—A company has been formed to build an electrical railroad from Lazearville to Wellsburg, about one mile, thence to Bethany, seven miles, and a branch from Wellsburg to Windsor station, four miles.

Wheeling, W. Va.—Plans are taking definite shape for a new electrical railroad that would connect Wheeling with Bellaire, Bridgeport and Martin's Ferry, on the Ohio side of the river.

MACHINERY WANTED

If you desire to purchase machinery of any kind consult our advertising columns, and if you cannot find just what you wish, send us particulars as to the kind of machinery needed. We will make your wants known free of cost, and in this way secure the attention of machinery manufacturers throughout the country. You will thus get all information desired as to prices, etc.

Ammonia Factory.—Rosser L. Moody, Manchester, Va., wants machinery for manufacturing ammonia.

Belting Machinery.—L. Bryant Hill, 2 and 4 Hanover street, Baltimore, Md., wants to correspond with manufacturers of machinery for making leather belting.

Belting.—W. B. Gruson, Pitts, Ga., will buy belting.

Boiler.—E. S. Adkins, Salisbury, Md., is in the market for a boiler.

Boiler.—A. T. Sheets, Brooksville, Fla., wants a twenty-five horse-power fire-box boiler.

Boiler.—H. J. Williams, Dallas, Texas, will want a boiler.

Boiler.—The Burlington Manufacturing Co., Burlington, N. C., wants a boiler, new or second-hand.

Boiler.—Cooper Bros. & Frazier, Bluefield, W. Va., will buy a boiler.

Brick Machine.—A. J. Herring, Monroe, La., wants an Anderson brick machine.

Broom Machinery.—The Amherst Broom Manufacturing Co., Amherst C. H., Va., wants to purchase broom machinery.

Canning Machinery.—W. N. McAnge & Co., Suffolk, Va., want complete outfit for canning tomatoes, etc.; want cash prices.

Canning Machinery.—Charles Macon, Ingleside, N. C., wants information and prices on canning machinery, etc.

Clayworking Machinery.—Moses Adler, care Eisman & Weil, Atlanta, Ga., wants prices on and information concerning machinery for manufacturing clay shingles.

Corn Mill.—B. F. McGrew, Pulaski, Tenn.,

wants at once a complete outfit for a 400-bushel corn mill.

Corn Mill.—W. B. Gruson, Pitts, Ga., may buy a corn mill.

Corn Mill.—R. C. Mansfield, Cat Creek, Ky., will purchase a roller corn mill outfit.

Cotton Gins, etc.—W. B. Gruson, Pitts, Ga., will buy two cotton gins and a press.

Cotton Mill.—The Chewalla Cotton Mills, Eu- faula, Ala., will buy outfit for cotton yarn manufacturing. Address J. P. Fay, president.

Cottonseed-oil Mill.—Equipment for cottonseed-oil mill will be wanted. Address William Reeves, Caldwell, Texas.

Electric-light Plant.—H. J. Williams, Dallas, Texas, will want electric-light machinery.

Elevator.—The Power Grocery Co., Paris, Ky., will buy a hydraulic elevator.

Engine.—H. J. Williams, Dallas, Texas, will want an engine.

Engine.—Florence Mills, Forest City, N. C., will need a Corliss engine of from 100 to 125 horse-power.

Engine.—The Burlington Manufacturing Co., Burlington, N. C., wants an engine, new or second-hand.

Engine.—E. S. Adkins, Salisbury, Md., is in the market for an engine.

Engine.—A. T. Sheets, Brooksville, Fla., wants a tramroad engine, standard gage.

Engine.—Cooper Bros. & Frazier, Bluefield, W. Va., will buy an engine.

Flour Mill.—B. F. McGrew, Pulaski, Tenn., wants at once a complete outfit for a 60-barrel roller flour mill.

Flour Mill.—A. L. Mansfield, Alley, Tenn., will let contract on March 1 for the erection of a 100-barrel roller flour mill.

Flour Mill.—Perry Yarbrough, Pine Log, Ga., will purchase a roller flour mill.

Gas Engine.—Thomas D. Evans, Lynchburg, Va., wants a three or four horse-power gas engine.

Heating Apparatus.—Rev. F. P. Culver, Anniston, Ala., wants prices on apparatus for heating a church by steam or hot water.

Hub Factory.—E. S. Adkins, Salisbury, Md., is in the market for hub factory outfit.

Ice Plant.—H. J. Williams, Dallas, Texas, will want ice plant.

Iron Bridge.—Jefferson county, Texas, invites bids until March 14 for the construction of an iron bridge 200 feet long with a 16-foot roadway. Plans and specifications can be seen at the office of the county judge, Edward P. Gray, Beaumont, Texas.

Laundry Machinery.—H. J. Williams, Dallas, Texas, will want laundry machinery.

Laundry Machinery.—Chas. R. Gregory, Brunswick, Md., wants prices on steam laundry outfit.

Match Machinery.—The Cameron & Barkley Co., Charleston, S. C., wants to correspond with manufacturers of machinery for making matches. Address C. B. Jenkins, general manager.

Planer.—The Burlington Manufacturing Co., Burlington, N. C., wants a planer, new or second-hand.

Planing Mill.—E. S. Adkins, Salisbury, Md., is in the market for a planing mill.

Printing Works.—The Sun Publishing Co., Atlanta, Ga., will purchase complete outfit for printing works, including a perfecting press. G. K. Woodward, manager.

Pulleys, etc.—W. B. Gruson, Pitts, Ga., will buy pulleys and shafting.

Saw Mill.—E. S. Adkins, Salisbury, Md., is in the market for a saw mill.

Saw Mill.—A. T. Sheets, Brooksville, Fla., wants a saw mill.

Saw Mill.—The James Lumber Co., Charleston, W. Va., may want new saw mill. Address L. James, president.

Sorghum Mill.—W. W. Watkins, Aberdeen, Miss., wants a sorghum mill and evaporator of fifteen to twenty barrels capacity daily.

Telephone Supplies.—The Virginia & West Virginia Telephone Co., Harrisonburg, Va., will purchase telephone supplies. Address George N. Conrad, secretary.

Veneering Machinery.—The James Lumber Co., Charleston, W. Va., may buy veneering machinery. Address L. James, president.

Woodworking Machinery.—Cooper Bros. & Frazier, Bluefield, W. Va., will buy some wood-working machinery.

The Nick Peay Co., of Little Rock, Ark., will always be in the market for plumbing and steam-fitting supplies.

W. N. McAnge & Co., of Suffolk, Va., will want cans for cannery.

The Baxter Wire Nail Works, of Bridgeport, Ala., wants to correspond with nail keg manufacturers.

W. A. Hilton, Box 72, Pocahontas, Va., wants to buy school furniture.

The Mitchel & O'Hare Hardware Co., of Maysville, Ky., is in the market for general hardware,

iron, wagon woodwork, etc. Address M. S. O'Hare, secretary.

W. L. Vost, of Wytheville, Va., wants to correspond with manufacturers of cylinder glass, ornamental, glued and ingrained woods and light metal for book and other cases.

J. T. Maury, Midway, La., invites proposals for furnishing throughout the new courthouse for Bossier parish.

SOUTHERN FINANCIAL NEWS.

New Banks.

Americus, Ga.—The Bank of Americus, which recently suspended business, will probably soon be reorganized and operations resumed.

Beeville, Texas.—The Commercial National Bank of Beeville has been authorized to commence business with Luther B. Creath, president, and D. C. Stone, cashier. The capital stock is \$50,000.

Columbia, Tenn.—The Maury National Bank lately noted, is officered as follows: G. T. Hughes, president; R. C. Church, vice-president, and C. A. Parker, cashier. The capital stock is \$50,000.

Fayetteville, N. C.—A bill is before the legislature changing the name of the Bank of Commerce to the Bank of Cumberland.

Frostburg, Md.—John L. Porter and associates have applied to the comptroller for authority to organize the Citizens' National Bank. The capital stock is to be \$50,000.

Goldboro, N. C.—A bill has been introduced in the legislature to incorporate the Commercial and Savings Bank of Goldboro.

Lexington, N. C.—A bill to incorporate the Bank of Lexington has passed third reading in the legislature.

Madison, N. C.—A bill incorporating the Bank of Madison has passed third reading in the legislature.

Pittsburg, Texas.—The First National Bank of Pittsburg has been authorized to commence business with W. B. Womack, president, and W. C. Hargrove, cashier. The capital stock is \$50,000.

Raleigh, N. C.—A bill to incorporate the Bank of Commerce has been introduced in the legislature.

Tifton, Ga.—A \$10,000 bank has been organized.

Wilmington, N. C.—The Citizens' Savings Bank, now applying to the legislature for a charter, will likely organize in a few weeks. J. W. Norwood and others are the incorporators.

Winston, N. C.—A bill to incorporate the Exchange Bank of Winston has been introduced in the legislature.

Anniston, Ala.—The Equitable Mortgage Co. of New York has purchased a number of the Anniston city bonds at \$104.05.

Asheville, N. C.—A bill has been introduced in the legislature to incorporate the North Carolina State Insurance Co. of Asheville.

Augusta, Ga.—The city has sold the \$5,000 of 1½ per cent. 30-year city redemption bonds to Lamprecht Bros. & Co., of Cleveland, Ohio. They paid a premium amounting to \$273.50.

Bronson, Fla.—Levy county will hold an election to vote on the question of issuing \$35,000 of courthouse bonds.

Denton, Md.—Caroline county contemplates issuing \$500 of courthouse bonds. The county clerk can be addressed.

Lexington, N. C.—A bill authorizing Davidson county to issue \$200,000 of bonds to erect an asylum has passed the legislature. The county clerk can inform.

Louisville, Ky.—The German-American Real Estate & Investment Co. has been incorporated by A. J. Spreckert, G. F. Rothenberger, Joseph A. Ludwig and others. The authorized capital stock is \$250,000.

Lynchburg, Va.—The National Investment & Insurance Co. has been incorporated with a capital stock of \$20,000.

Macon, Ga.—The American Investment Co. has declared a dividend of 25 per cent.

New Orleans, La.—The New Orleans & Carrollton Railroad Co. has sold its entire issue of new 6 per cent. gold bonds to Isadore Newman, of New Orleans. The bonds run twelve, thirteen and fourteen years, and make the total bonds of the company outstanding \$600,000, all bearing interest at 6 per cent. The capital stock was increased from \$500,000 to \$1,200,000 in October last. The funds obtained from the sale of these new securities are applied to the extensive betterments being made by the company, including the equipment of its lines with electricity.

Raleigh, N. C.—A bill incorporating the Southern Trust & Guarantee Co. has been introduced in the legislature.

Rock Hill, S. C.—The College Home Building and Loan Association has been incorporated by W. B. Wilson, Jr., and Andrew R. Smith. The capital stock is \$5000.

San Antonio, Texas.—The county commissioners of Bexar county have decided to issue \$115,000 of 6 per cent. courthouse bonds.

TRADE NOTES.

The Barnard & Leas Manufacturing Co., of Moline, Ill., has been awarded contract for the machinery outfit for the flour mill to be built at Stuart's Draft, Va., by the Stuart's Draft Milling Co.

A CHANGE is announced in the prominent Southern architectural firm of Wilson & Huggins. The firm is dissolved by Mr. Wilson purchasing the interest of Mr. Huggins. The business will be continued by Charles C. Wilson.

The Insulator Pin & Bracket Co., of Meyersdale, Pa., succeeded to the business of the Pittsburgh Insulator Pin & Bracket Co. The company will turn out a superior class of goods, and is quoting prices that should draw increased patronage.

The Weisel & Vilter Manufacturing Co., of Milwaukee, Wis., manufacturer of ice and refrigerating machinery, lately obtained contract for a 50-ton ice machine for the Sommerfield Brewing Co., of Baltimore, Md. It is now being erected and will be in running order by May 1.

The Storm Ridge Mills at Indianapolis, Ind., has been purchased by Sylvester Brower, of Independence, La., who will remodel the plant. He has awarded contract to the Nordyke & Marmon Co., of Indianapolis, Ind., for refitting as a complete roller mill of forty barrels capacity, and for furnishing a buckwheat and cornmeal mill.

The latest triumph of ingenuity brought out by the Egan Co., of Cincinnati, Ohio, has just been awarded the medal of superiority by the American Institute of New York city. The machine that was given such high honors is the triple drum sander (for the polishing and sandpapering of all kinds of woods) which has of late become so famous for beautiful and reliable production. It is the greatest mechanism of this type now in existence.

This plant and franchises of the People's Light, Heat & Power Co., of Asheville, N. C., will be sold in that city at a trustee's sale on March 20. The property includes contract for lighting the city, real estate, buildings, a National alternating dynamo of 1000-light capacity, two Western electric arc dynamos of 50-light capacity each, together with all apparatus, wires, etc., required for electric lighting. J. E. Rankin, trustee, Asheville, N. C., can be addressed.

The Foster Machine Co., of Westfield, Mass., builders of special textile machinery for cotton, silk and wool, during the week ending February 17 placed cone winders in the following mills: E. Jenckes Manufacturing Co., Pawtucket, R. I.; Menasket Mills, Taunton, Mass.; Cohannet Mills, Taunton, Mass.; Germantown Spinning Co., Philadelphia, Pa.; Hadley Co., Holyoke, Mass.; Shenandoah Cotton Co., Utica, N. Y.; Willimantic Linen Co., Willimantic, Conn.; G. Campbell & Co., Philadelphia, Pa.; Nonotuck Silk Co., Florence, Mass.; Sanford Spinning Co., Fall River, Mass., and the Globe Varn Mills, Fall River, Mass.

QUEEN & CO., Incorporated, have purchased from Mr. John T. Warden, of Philadelphia, the sole right to manufacture and sell his well-known automatic drawing table which, in the two years in which it has been in existence, has come so favorably into notice. It is now used in many of the largest drafting rooms in the country. This table is adjustable for use either flat or slanting from either side, and it is adjustable for height as well as for angle. The straight edge which takes the place of the T square always moves parallel from a very ingenious, lazy-tongs motion by which the strings of the Bergner board pattern are dispensed with.

AMONG recent contracts closed by H. Ashton Ramsay, of Baltimore, Eastern agent for the Youngstown Bridge Co., and consulting engineer of general engineering work, are a 1700-foot steel highway bridge at Brunswick, Md.; the Bohemia bridge across Bohemia river, in Cecil county, Md., 1352 feet long, seventeen and one-half feet wide, a swing draw ninety feet long and supported on a stone pier resting on piles; M-street bridge, Washington, D. C., across Rock creek, under grade truss, 127-foot span and four trusses divided into ten panels. This bridge is to be constructed under contract from the Washington & Georgetown Railway Co., and under the supervision of C. B. Hunt, engineer of bridges for the District of Columbia.

THE introduction of the Gordon patent hollow-blast grate is rapidly being extended. The sales for the month of January were as follows: American Manufacturing Co., St. Louis, Mo.; N. B. Hayes, Vickeryville, Mich.; Hall & Buell, South Manistique, Mich.; Laird-Norton Co., Winona, Minn.; F. N. Ellis & Co., Glandore, Ohio; S. Rice & Sons, Marquette, Mich.; Horton, Gildersleeve & Co., Johnson City, Tenn.; Rarick & Cummins, Albion, Ind.; Delta Lumber Co., Thompson, Mich.; F. E. Bradley, Bay City, Mich.; Moses Steiner, Bluffton, Ohio; T. W. Snook, Mt. Clemens, Mich.; Glenwood Manufacturing Co.,

Glenwood, Wis.; Great Western Mining & Manufacturing Co., Peach Orchard, Ky.; Rumford Falls Paper Co., Rumford Falls, Maine; A. M. Harmon Lumber Co., Foster City, Mich.; J. L. Preston, Melrose, Ohio; Salliotte & Furgason, Ecorse, Mich.; Wallace, Banfield & Co., Irondale, Ohio; Gondolo Tannin Co., Grapeville, Pa.; Jacob Shaeffer, Delphos, Ohio; John Goble, Gobleville, Ind.; Bailey Stave Co., Bailey, Mich.; E. J. Myers, Kings Corners, Wis.; C. J. Miller, Eastwood, Mich.

TRADE LITERATURE.

THE spring trade catalogue of W. B. Belknap & Co., Louisville, Ky., wholesale hardware, fishing-tackle, etc., dealers, has been published. It is fully illustrated, and covers the various sundries handled by that firm.

A FOLDER from the Rubber Paint Co., of 34 South Calvert street, Baltimore, gives a few points on roofing and weather-proof paint that are well taken, and presents some highly commendatory letters based on the practical experience of the writers with this company's product.

A SMALL pamphlet inviting attention to and descriptive of the Standard patent drier manufactured by the Standard Dry Kiln Co., of Louisville, Ky., has been issued by that company. It contains interesting chapters on the science of drying, lumber drying, etc. A list of users indicates that the friends of this drier are not confined to any section, but are to be found all over the country.

THE Ford Bit Co., of Holyoke, Mass., has issued a neat little circular setting forth the advantages of the form of bit it manufactures. One strong feature brought forward is that the bit, from its peculiar shape, cannot bind or clog, and thus works easily and makes a clean hole. An interesting point given is the relative hardness of American woods, shellbark hickory being taken as a standard.

THE Columbia cycling calendar for 1893 is one of the practical calendars for the year. It begins with February, 1893, and ends with February, 1894. It consists of a circular piece of cardboard twenty-seven inches in circumference, the calendar picture being framed with a reproduction of the pneumatic rubber tire. The picture is in water colors, and represents a country scene with a bicycling couple in the foreground resting in a cosy nook after a ride. The original picture is by a celebrated American artist. This calendar is issued by the Pope Manufacturing Co., of Boston.

To the Inauguration via B. & O. R. R.

THE Baltimore & Ohio Railroad announces that on the occasion of the inauguration of Cleveland and Stevenson, on March 4th; it will sell excursion tickets to Washington and return at low rates. Tickets reading via the B. & O. will be on sale at its own offices and at the offices of the principal railroad companies throughout the country. Tickets will be sold March 2d, 3d and 4th, and will be good for return journey until March 7th, inclusive. For information in detail concerning time of trains, rates of fare, etc., address C. P. Craig, general Eastern passenger agent, 415 Broadway, New York; A. J. Simmons, New England passenger agent, 211 Washington street, Boston, Mass., or James Potter, District passenger agent, 333 Chestnut street, Philadelphia, Pa.

THE FITCHBURG RAILROAD.

The Connecting Link Between the West and New England.

NO other railroad leading to Boston from Western points has made so much progress in the matter of providing elegant, comfortable and secure facilities for the traveling public as the Fitchburg Railroad (Hoosac Tunnel Route). It is the short line between St. Louis, Chicago and other Western points to Boston. Since its construction it has been one of the most popular routes through the Middle and Atlantic States, and has never failed to keep abreast of the times and ahead of rivals in modern improvements. The line has for years enjoyed a national reputation on account of its splendid train service, attractiveness of property and magnificence of scenery.

There is now an immense electric-light plant in operation, which lights up the famous Hoosac Tunnel, and the ride through this five miles of artificial cavern, illuminated in a manner which permits the observation of the wonderful construction, is a treat well worth the cost of the entire passage from Chicago to Boston. Every facility for freeing this immense cavern from the usual objectionable features of railroad tunnels has been provided. It has two chimneys through which all offensive smoke and gasses are carried off, which insures comparative cleanliness and comfort at all times.

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